



EMME-CARE

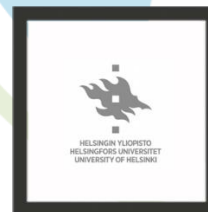
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D9.4 First Annual Report contents of the PDER, knowledge and data management, and IPR protection, communication, outreach & public engagement

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1. Introduction

This document refers to Deliverable “**D9.4: First Annual Report contents of the PDER, knowledge and data management, and IPR protection, communication, outreach & public engagement**”, and discusses deliverables, milestones and other activities that occurred during M1 – M12 (September 2019 – August 2020) of the EMME-CARE TEAMING-Phase-II Grant Agreement (Grant No. 856612). More specifically, this deliverable addresses the above in relation to the contents of the ‘PDER – Plan for the Dissemination and Exploitation of Results’, which is linked to Task 9.1.c: “Monitoring the different contents of the PDER (led by the Cyprus Institute [Cyl])”, knowledge and data management, and IPR protection linked to Task 9.2 of the same name (led by Cyl), and communication, outreach & public engagement linked to Task 9.3 of the same name (also led by Cyl).

The purpose of the Tasks described above, along with their associated deliverables, milestones and other relevant activities, as these are described in this deliverable, align with the wider objectives of Work Package 9 – Dissemination, Exploitation and Communication (led by Cyl). Namely, they aim to:

- maximize the impact of the Center of Excellence (CoE) by setting up and leveraging appropriate channels to reach and engage potential users and stakeholders;
- secure high levels of scientific and industrial connectivity for the CoE (eco-innovation clusters, R&D boost projects; GA sections 1.1.2.8; 1.1.2.9) through appropriate, targeted dissemination and exploitation (GA sections 2.2.1; 2.2.2);
- establish a dynamic role in the surrounding innovation system (connectivity and clusters) GA Sections 1.3.7; 2.1.1.2; 2.1.1.3); and
- aim for a higher national and international profile with correspondingly greater visibility through a wide range of communication activities (GA section 2.2.3).

1.1 Summary of Deliverables and Milestone

In the frame of the abovementioned objectives of Work package (WP) 9, during M1 – M12, the EMME-CARE Consortium has completed the successful and timely submission of three deliverables and the timely reach of one milestone, all of which are directly relevant to D9.4. These are:

Deliverables:

- D9.1: Consolidated and Upgraded Website for the CoE** (linked to Task 9.1c), submitted M5 (led by Cyl).
- D9.2: Structure of the Communication & Outreach Office** (linked to Task 9.1a) **and PDER Plan** (linked to Task 9.1.b), submitted M6 (led by Cyl).
- D9.3: Data Management Plan** (Open Data Pilot) (linked to Task 9.2b), submitted M6 (led by Cyl).

Milestone:

- MS35: Website and social media presence created and fully operational**, this is related to providing a consolidated and updated Website for the CoE (Deliverable D9.1), along with the relevant functional social media (i.e. LinkedIn, Twitter, Facebook, ResearchGate). M6 (led by Cyl).

The content and any relevant updates relating to D9.1, D9.2 and D9.3 and MS36 are referred to throughout this deliverable in the context of the First Annual Report in the sections that follow.

1.2 Impacts and implications from the COVID-19 pandemic

In the context of this Report, we must also acknowledge the impacts and implications brought to EMME-CARE's dissemination, exploitation and communication activities by the global COVID-19 pandemic. The novel coronavirus has had profound impacts in people's health, lives and livelihoods, as well as the economy and our economic structures at a global scale. Understandably, this has also impacted some of the ways through which it is feasible and/or appropriate for EMME-CARE to carry out its communications, dissemination and exploitation activities in the context of the pandemic. It should be clarified that EMME-CARE's key strategic objectives for dissemination, exploitation and communication, as these have been outlined in section 1 of this deliverable, remain the same, as they align and serve the fundamental objectives of the project. Accordingly, impacts and implications from the pandemic primarily relate to two key aspects of communication, dissemination and exploitation activities for the realisation of these objectives. Namely, the **content** and **format** of relevant activities.

Specifically, when it comes to **content**, EMME-CARE recognizes the urgent need and responsibility to contribute to addressing the pandemic emergency and its impacts, as well as supports global discourses that position it as wake-up call to the climate emergency thus highlighting the need for Green Recovery plans to promote the longer-term safety and prosperity of our planet. As such, EMME-CARE has adopted a two-pronged approach:

- Help raise awareness for science-driven initiatives by EMME-CARE that aim to contribute to addressing and better understanding the pandemic emergency and its impact, for example in relation to the effects of lockdown measures on air pollution (see section 2); and
- Refine and adapt EMME-CARE's key messages to contribute to global discourses that highlight the connections between the pandemic and the climate emergency and emphasise the need for urgent climate action and Green Recovery plans to promote longer-term safety and prosperity. To support this, EMME-CARE defined a relevant *narrative* to be used as the basis of its messaging in this area. A copy of this narrative may be found in the Annex.

When it comes to **format**, in line with relevant guidelines of the Cyprus Government, all face-to-face public events that EMME-CARE was organizing were either cancelled or postponed. This was also prominently showcased on the EMME-CARE website with a relevant notice ("screenshot" in the Annex). Wherever possible, and in accordance with government guidelines, EMME-CARE has been continuing its activities through digital means, including the organization and participation in webinars, online meetings and other remote collaboration and networking activities. Details in in the upcoming sections of this deliverable.

2. Contents of the PDER

This section outlines the first annual report on the contents of EMME-CARE's PDER as these link to: **D9.1: Consolidated and Upgraded Website of the CoE** submitted in January 2020; **D9.2: Structure of the Communication & Outreach Office and PDER Plan** submitted in February 2020; and the Cyl-led **Task 9.1.c: Monitoring the different contents of the PDER**, which includes:

- Scientific articles and publications, conferences and workshops.
- Brochures, leaflets and e-Newsletter.
- Website: consolidation and upgrading from Teaming-Phase-I into CoE, and annual maintenance.
- Dissemination activities related to national and regional clusters, and R&D and student mobility programmes.

In the context of the above, the First Annual Report also includes other exploitation-focused activities the project has undertaken as well as other relevant activities that have taken place.

2.1 Scientific articles and publications, conferences and workshops.

Scientific Articles and Publications

For consistency purposes, the reporting convention followed by the CoE for scientific articles and publications is being conducted in line with the reporting timelines and requirements set forth by the Cyprus Institute. Accordingly, the CoE gathers information on scientific articles and publications in two intervals each year: January – June, and July – December. More specifically, for the numbers quoted in this section, information quoted for years up to 2019 represent scientific articles and publications for each respective *calendar* year, whilst for the year 2020 scientific articles and publications reported in this deliverable represent the period January – June 2020.

Regarding peer-reviewed scientific publications, as already stated in the Grant Agreement (section 2.2.2) and D9.3 Data Management Plan (Open Data Pilot) the CoE prioritizes being fully in-line with the relevant guidance contained in the Horizon 2020 online manual¹, and following a gold open access approach. Accordingly, a record of the CoE’s publications is also readily available at any time through the CoE’s website (<https://emme-care.cyi.ac.cy/publications/>). More information about Open Access and the CoE’s **Data Management Plan (DMP)** on section 3.1 of this deliverable.

Publications through the years:

In 2019, the CoE has reported sixty (60) scientific articles and publications, with c. 47% of which (28) in top-10 cited journals in relevant research fields (based on Scimago Journal & Country Rank data).

So-far in 2020 (January – June), the CoE is in a position to report fifty-one (51) scientific articles and publications that have either been published, accepted or submitted in relevant journals and other publications.

Publications of the research teams of the now CoE, have been on an onward trend beginning from the time of the Atmosphere and Climate Division of the CyI in 2009, that the CoE is projected to continue to develop and further enhance based on the number of 2019 publications and indications from so-far publications in 2020. When examining overall (2009 – 2019), **c. 60% of publications have been published in top-10 cited journals** (according to the Scimago Journal & Country Rank). For reference, a bar chart visualizing this information for 2009 – 2019 is included below.

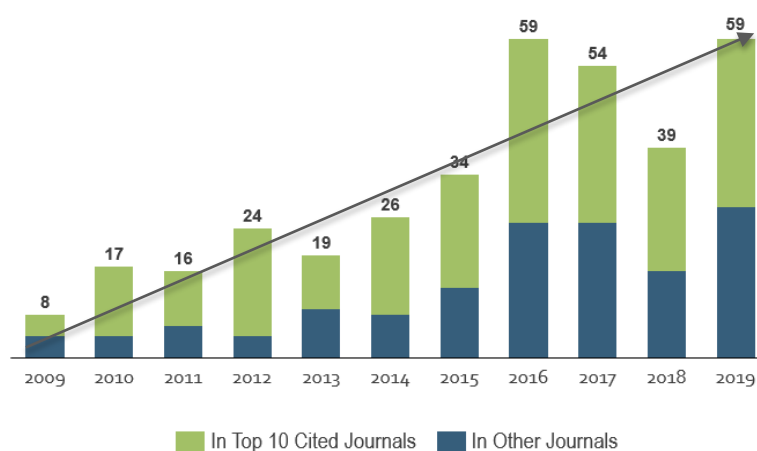


Figure 2.1.1: Publications through the years, with breakdown of publications in top-10 cited journals.

¹ http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/open-access_en.htm

The full list of publications for 2019, and so-far publications for 2020 can be found on the dedicated webpage on the EMME-CARE website (<https://emme-care.cyi.ac.cy/publications/>). This ensures that the latest information about CoE publications are openly accessible by all interested, and organized by year in a user-friendly way. The website also allows the user the functionality of searching through publications, hence enhancing and accelerating their findability.

High-profile and internationally recognized:

In addition to having the majority of CoE publications being featured in top-10 cited journals, researchers of the CoE also contribute to outstandingly high-profile and internationally recognized publications.

Indicatively in 2019, the paper “Cardiovascular disease burden from ambient air pollution in Europe reassessed using novel hazard ratio functions”, published in the European Heart Journal, with Prof Jos Lelieveld, Head of the CoE’s Environmental Predictions Department, being a key contributor, was **#72 in Altmetric’s List of the World’s Top 100 most-discussed Papers** (<https://www.altmetric.com/top100/2019>).

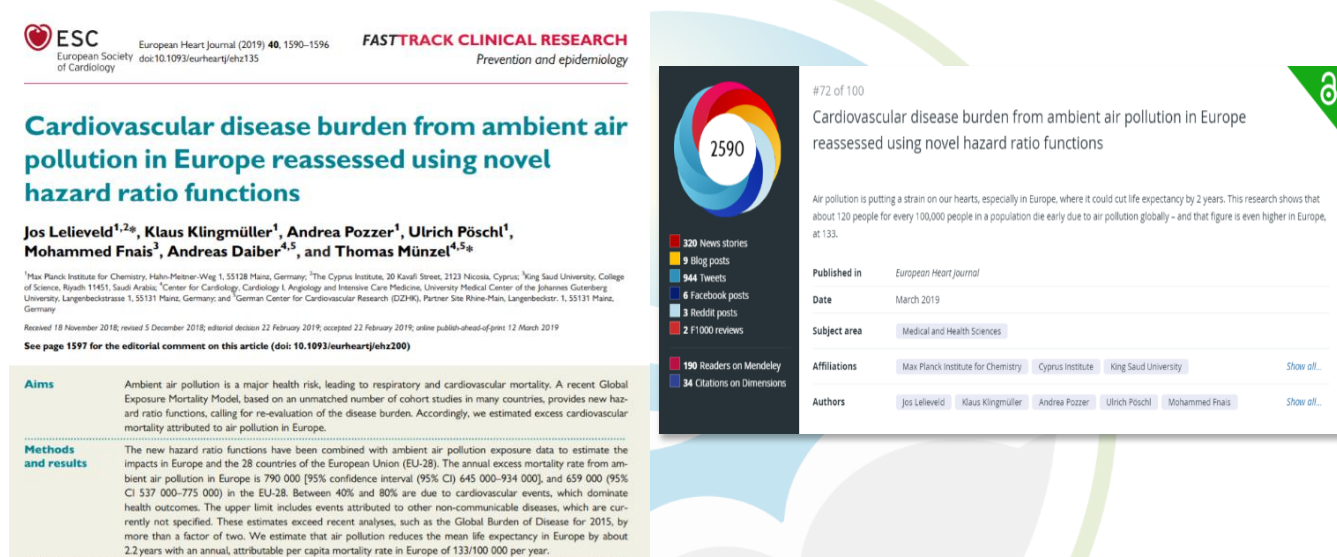


Figure 2.1.2: Paper with contribution of Jos Lelieveld in Altmetric’s list of the world’s top 100 most-discussed paper in 2019

Conferences and Workshops

During the period reported in this deliverable, the CoE has presented and participated in a sizeable number of conferences and workshops, though it should be mentioned that a large number of these events has been impacted by the pandemic, which influenced the number of opportunities the CoE had to take advantage of such events as well as how the CoE was able to engage with them when available. Indicatively, some conferences such as the European Geosciences Union (EGU) General Assembly 2020 were moved online, and the CoE has contributed and participated accordingly, whilst many other conferences where the CoE was due to participate in were either cancelled or postponed, for example, the International Society for Atmospheric Research Conference (ISARRA 2020) that was due to take place at Andøya Space Center (www.andoyaspace.no) in Norway in October (19th -23rd) has been postponed until September 2021.

In terms of numbers, in the period reported in this deliverable, members of the CoE have presented and participated or are expected to participate in twenty-four (25) scientific conferences, workshops and training, contributing to the dissemination activities of the Center. These are as follows:

Conferences:

1. A. Christodoulou, S. Sauvage, C. Afif, R. Sarda-Estève, I. Stavroulas, M. Pikridas, F. Unga, K. Oikonomou, M. Iakovides, J. Sciare, 12th International Conference on Air Quality, 18-22 May 2020
2. C. Rousogenous, 2020 Virtual TCCON Meeting, 13 May 2020
3. G. Biskos, Cambridge Particle Meeting, 19 June 2020
4. J. Sciare, The Gulf Environment: Understanding and Managing the Challenges, 21-23 January 2020
5. M. Miani, J. Araya-Lopez, Y. Proestos, T. Christoudias, J. Lelieveld, 8th International Young Scientist Conference on Computational Science, September 2020
6. N. Lekaki, M. Costi, G. Biskos, A. Maisser EGU General Assembly 2020, 04-08 May 2020
7. Yunsong Liu, Jean-Daniel Paris, Mihalis Vrekoussis, Panayiota Antoniou, Marios Argyrides, Christos Constantinides, Dylan Desbree, Neoclis Hadjigeorgiou, Christos Keleshis, Olivier Laurent, Andreas Leonidou, Carole Philippon, Panagiotis Vouterakos, Pierre-Yves Quehe, Philippe Bousquet, Jean Sciare EGU General Assembly 2020, 4-8 May 2020
8. Zittis G., Bruggeman A., Hadjinicolaou P., Lelieveld J., E.G.U. General Assembly, 06 May 2020

Workshops:

1. ACTRIS Community / IMP Kick-Off Meeting, 02-06 March 2020
2. ACTRIS NOx/VOC QA workshop 2020, 12-14 May, 2020
3. Air Quality Response to the COVID-19 Slowdown, 02 June 2020
4. Effective HPC for Climate and Weather, M. Mianni, 24 to 28 August 2020
5. EMME-CARE project workshops Helsinki, EMME-CARE2, 2-3 December 2019
6. IPSL Virtual Summer School 2020, 01-03 July 2020
7. JES (Journée d'Etudes Scientifiques / Scientific days), 21 November 2019
8. Particules & Santé / Particules & Health, 22 - 23 November 2019
9. Seminar delivery, participation in thesis defense, and project meetings with TU DELFT & Univ. Groningen Amsterdam, EMME-CARE2, 16-17 December 2019
10. Synthetic Nano & Microfibers Project Amsterdam, 4 - 5 November 2019
11. Virtual Workshop: System for Integrated Modeling of the Atmosphere (SIMA), 29 Jun-01 July 2020

Training:





1. Aircore Training, LSCE CEA Saclay, 24 – 28 February 2020
2. Initial training course on pollen recognition in the atmosphere, Réseau National de Surveillance Aérobiologique / French Aerobiology Network, 13 - 24 January 2020
3. TCCON Retrieval Software/Methods, University of Bremen, 02-12 September 2019
4. Training on COBALD Sonde (ETH, University of Zurich), University of Zurich, 25-28 February 2020
5. UAS Pilot - BVLOS, Night Flight, Fixed-Wing (A+B), GEOSENSE IKE, 8-12 June & 15-19 June 2020
6. National Emissions Inventory training, CITEPA (Paris, France), November 2019

Indicative photographs from some of the events mentioned above can be found in the Annex.

2.2 Brochures, leaflets and e-Newsletter.

Promotional material that highlight and showcase the vision, purpose and work of the CoE are extremely helpful in disseminating and communicating information about the CoE and helping to raise its visibility among different audiences. Accordingly, the CoE has proceeded to produce such promotional material, made available in both print (in the CoE and other Cyl premises, as well as being disseminated in relevant events and shared with appropriate visitors) and digital formats (found on the EMME-CARE and Cyl site). An overview of these material, in line with the requirements and work set out in the PDER, is outlined below.

Brochures & Leaflets

-  **EMME-CARE Brochure:** the EMME-CARE Brochure includes an overview of the project, its vision, purpose and scope. With key information about EMME-CARE Advanced partners and international networks.
-  **CARE-C Brochure:** the CARE-C Brochure provides an overview of the CoE, its departments, research areas and research infrastructures as well as its innovation and education activities.
-  **MSc/MPhil Environmental Sciences Brochure:** contains information about the Postgraduate Programmes CARE-C contributes to through the Cyl Graduate School.
-  **CoE Research Infrastructure Leaflets:** shorter documents each of which, with dedicated information on specific Research Infrastructure of the CoE, such as the Unmanned Systems Research Laboratory (USRL) and the Cyprus Atmospheric Observatory (CAO).

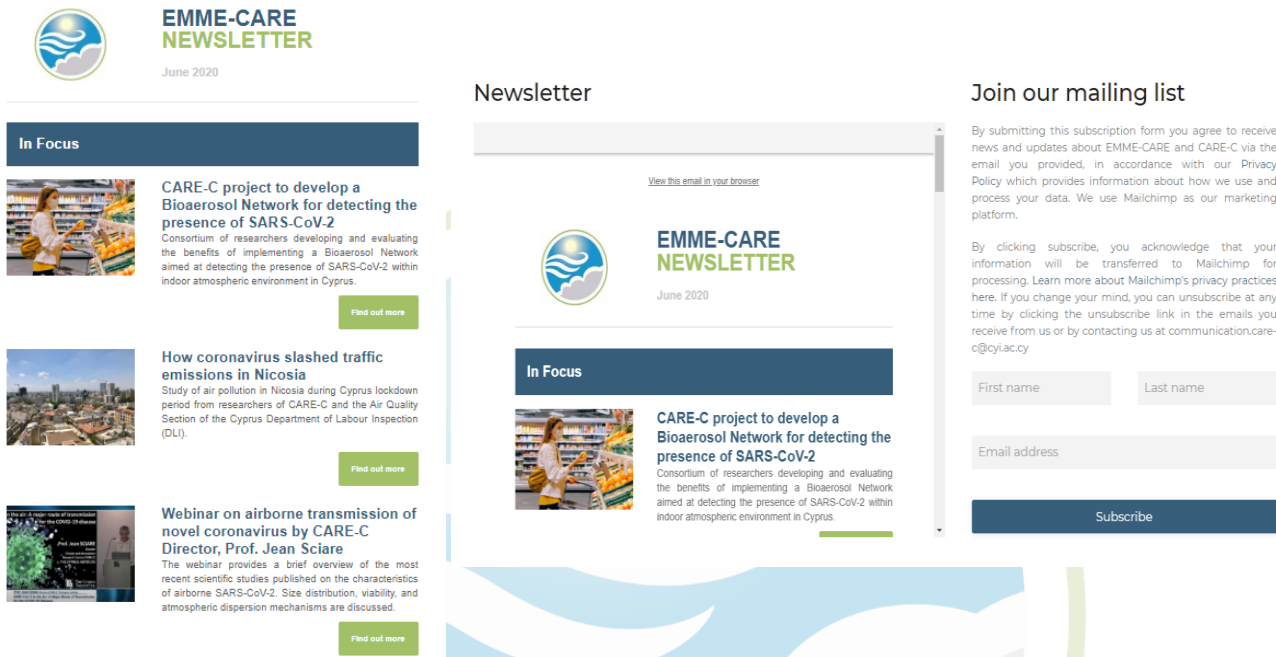
Leaflets and brochures of the CoE are accessible at all times in digital format through the CoE website (<https://emme-care.cyi.ac.cy/news/> - Brochures & Reports). Relevant photographs of the brochures on display are also included the Annex.

e-Newsletter

The e-newsletter has been designed in a clean, easily readable template and branded in EMME-CARE primary (blue) and accent (green) colours. It prominently displays the EMME-CARE logo, and appropriately showcases the relevant EMME-CARE funding declaration including displaying the logo of the European Commission at its footer. It includes articles, news items and updates from the CoE and its Advanced Partners, focusing on showcasing the work and results produced by the Center. It also features a “Meet CARE-C” column featuring a CoE member, with the intention of offering the opportunity for early career scientists and researchers of the Center to introduce their work to CoE networks of national and international stakeholders.

Originally planned to be released at the end of April 2020, due to the timing of this in the midst of the COVID-19 pandemic, it was deemed more appropriate and pertinent to global events that the newsletter is released 5 weeks later so as to include relevant news items, actions and activities that the CoE has undertaken in response to this unprecedented global emergency. The e-newsletter was accordingly shared with the CoE’s mailing list, including CoE affiliates and Advanced Partners. Given the pandemic, an “In Focus” section was introduced highlighting relevant activities of the CoE in this area, more specifically: I) “CARE-C project to develop a Bioaerosol Network for detecting the presence of SARS-CoV-2”, II) “How coronavirus slashed traffic emissions in Nicosia” and III) “Webinar on airborne transmission of novel coronavirus by CARE-C Director, Prof. Jean Sciare”. An indicative “snapshot” of these “In Focus” items is provided below.

Existing and future issues of the e-newsletter are accessible at any time through the CoE website at <https://emme-care.cyi.ac.cy/news/>. The EMME-CARE newsletter is prominently featured in the EMME-CARE website's News & Events section. The section showcases an online “preview” of the newsletter, with a relevant link to the full online version, and includes an invitation for interested visitors of the website to subscribe to the EMME-CARE mailing list, to receive future issues of the newsletter by email. As per GDPR requirements, a relevant declaration is included in the online newsletter sign-up form, informing potential subscribers of what they will be signing up to, how they can unsubscribe at any time and providing a link to the EMME-CARE Privacy Policy with information about what and how data will be gathered, used and managed if they subscribe. A “screenshot” of this can be found below.



Figures 2.2.1 and 2.2.2: On the left, snapshot of the EMME-CARE e-newsletter – “In Focus” items relevant to the COVID-19 pandemic. On the right, the online form to join the EMME-CARE mailing list.

2.3 Website: consolidation and upgrading from Teaming-Phase-I into CoE, and annual maintenance.

As per the scope and vision for the development of the CoE, its dedicated website (<https://emme-care.cyi.ac.cy/>) has gone through two phases of consolidation and upgrading during the reporting period for this deliverable. In line with this, this section outlines:

- Consolidation and upgrading from Teaming-Phase-I into CoE;
- Further upgrading and annual maintenance of the CoE website; and
- Planned future upgrades for the CoE website.






More details for each round of upgrades can be found below.

a) *Consolidation and upgrading from Teaming-Phase-I into CoE*

As it was also stated in the Deliverable “D2.3: **Report on Dissemination, Exploitation and Communication Plan for the Centre**”, from EMME-CARE Phase I (Grant No. 763699), upon the establishment of the CoE, there were immediate actions for the creation of a dedicated CoE website.

The consolidation and upgrading actions taken to bring this to life were reported in D9.1 **Consolidated and Upgraded Website for CoE (led by Cyl)** submitted 31 January 2020. D9.1 addressed the processes for the consolidation and upgrade of the pre-existing EMME-CARE website developed under Phase I, including enhancing its features at front-end and back-end pages, in addition to content, monitoring and performance. Furthermore, this Deliverable also referred to changes implemented in the structure of the Cyl-Website to showcase information for the newly established CARE-C CoE, which has been established officially launched on 1st January 2020.

In summary, the consolidation and upgrades were conducted in the following categories:

-  Updated and consolidated website content and structure to reflect the activities and structure of the CoE;
-  Front-end improvements to enable a more user-friendly navigation experience;
-  Server-side upgrades to improve the website’s credibility and search engine ranking;
-  Links to social media channels to further improve the visibility and connectivity of CoE channels;
-  Creation of a new section of CoE webpages on the central Cyl website.

The tasks outlined above were handled by the, at the time, recently established RISO (Research and Innovation Support Operations Office) and performed with the great support of EMME-CARE / CARE-C staff, and in particular our IT Officer (recruited in January 2020) for the entire technical reshaping of the EMME-CARE website.

b) *Further upgrading and annual maintenance of the CoE website*

The version of the website reported on D9.1: Consolidate and Upgraded Website for the CoE (led by Cyl) was designed to fulfil the needs of an internet platform fully operational in the first few months following the start of the project.

To further the functionality and appeal of the website, a number of further upgrades were done since the submission of D9.1 (31 January 2020). Namely, the majority of the content, structure and functionality of the version of the CoE website reported in D9.1 has been improved both in quality and quantity by re-building the site in a new platform and through 1) the continuous support of the CoE’s IT officer (for the technical development of EMME-CARE webpages/sub-menus), 2) the contribution of the newly recruited Communication Coordinator (for the overall outlook and continuous inputs with new material), and 3) the contribution of CARE-C scientific/technical staff and Advanced Partners through the contribution of news, projects and developments of products & services to be reported.

The changes and upgrades made to the site had multiple benefits including more accurately representing the structure of the CoE, making the site more accessible and enabled the CoE to more attractively portray its work and offerings to different audiences. The changes and upgrades have also made the CoE’s website more user-friendly, more mobile-friendly and easier to navigate. The site was also set up with a view to more easily and flexibly expand it and add further its functionality in future.

A more detailed summary of the upgrades and benefits of the rebuild is outlined below.

Design, content and structure upgrades

- On the **design** front:
 - the site adopted a more minimalist look that is more user friendly and further supports enhanced ease of navigation;
 - relevant design restrictions were put in place for the uploading of images to ensure consistency in the dimensions and quality of visual elements presented on the site;
 - the menu and accents of the website were designed in EMME-CARE branded colours to convey visual coherence and consistency with the branding of the CoE;
 - finally, the website has been rebuilt in a full-screen mode and with what is widely accepted as a more modern style of navigation to better align with its position as a regional Center of Excellence.
- In terms of **content**, existing content was updated, enhanced and re-organized into wider categories for easier navigation, while a number of new pages were added or considerably upgraded with additional features, and in line with the commitments made for further developments in D9.1, including:
 - **Projects** (<https://emme-care.cyi.ac.cy/projects/>): a new page has been added with a comprehensive account of all the projects – in addition to EMME-CARE – that are under way within the context of the CoE. Information include an overview of each project, the funding body and relevant funding acknowledgment.
 - **Products & Services** (<https://emme-care.cyi.ac.cy/services/>): a new page has been added signposting the suite of relevant products & services offered by the CoE. The page includes a short description and image of each product and service, as well as the contact details of the relevant coordinator contact within the CoE that interested parties could contact for further information or to discuss potential collaboration. This page is expected to continue to receive increasing interest from various stakeholder communities as it displays some of the foremost selling points of the technical developments and services of EMME-CARE, such as High-Quality Environmental analyses and UAV-sensor systems.
 - **Publications** (<https://emme-care.cyi.ac.cy/publications/>): the visibility of this webpage has been improved by creating a high-level menu item for it accessible from the Landing page. A search functionality has also been added for ease of navigation. Further, in accordance with Open Access, efforts were made to provide relevant links for website visitors. Additionally, a visual representation of the accumulative (year-on-year) number of publications has been added, in line with relevant CoE KPIs. Finally, the ‘acknowledgement statement’ for EMME-CARE funding (to be used for any scientific communication) is clearly visible on the footer of the website and accessible from all pages of the site.
 - **News & Events** (<https://emme-care.cyi.ac.cy/news/>): the visibility of this webpage has been improved by creating a high-level menu item for it to be accessible from the Landing page. Additional content has been added to more easily signpost the latest news and media mentions of the CoE, as well as a dedicated section to feature the CoE’s e-newsletter. Finally, the contact details of the CoE’s Communications Coordinator have been added as the first point of contact for Press & Media enquiries.

- **Opportunities** (<https://emme-care.cyi.ac.cy/opportunities/>): the visibility of this webpage has been improved by creating a high-level menu item for it accessible from the Landing page. In addition to the pre-existing section about open vacancies at the CoE, two new sections were added with information about MSCA-Individual Fellowship opportunities at the CoE, as well as information for opportunities for interested postgraduate candidates.

Regarding the **website structure**, the sitemap of the new CoE site was built with the needs of the users and different audiences of the CoE in mind, so as to easily provide access to general overview information about the CoE, its structure, work and departments and more clearly signpost information that might be of more interest to specific audiences. For example, a Publications menu-item has been created to ensure faster access to researchers or other specialist audiences, a dedicated Products & Services menu-item has been created to quickly signpost this information to potential clients or other interested stakeholders, and a News & Events menu item has been created providing quick access to the latest news, press releases, events and outreach activities from the CoE that might be of particular interest to the press and the general public. More specifically, the sitemap of the new and improved CoE website is structured as follows:

- About
 - About EMME-CARE
 - About CARE-C
 - Vision
 - Regional Partners
 - Advanced Partners
 - Governance
 - Networks
- Center
 - Research Areas
 - Research Infrastructures
 - Education & Training
 - Innovation
 - People
- Publications
- Projects
- Products & Services
- Data
- News & Events

- News
- Events
- Newsletter
- In the Press
- Brochures & Reports
- Gallery
- Press & Media Enquiries
- Opportunities
 - Vacancies
 - MSCA Individual Fellowships
 - PhD Opportunities
- Contact

Technical and functionality upgrades

- 🌐 The website was developed based on the latest WordPress version to ensure state-of-the-art functionality, while the PHP version was upgraded and SSL was installed for security.
- 🌐 An industry leading, responsive template based on the most versatile framework, UiKit, was used, allowing even inexperienced people to easily and visually modify or create pages, minimizing potential maintenance troubles in the future.
- 🌐 The development took into consideration current website building best practices.
- 🌐 Significantly improved SEO and web-crawler compatibility by properly structuring all webpages.
- 🌐 Better organized News, Events, Publications, and other elements, and added the ability to act as "central" item database for other Cyl websites.
- 🌐 Added a full, open-source collaboration platform on the back-end, for future use and scientific data publishing.
- 🌐 Adopted the industry-leading data visualization library "Highcharts" to create great, responsive visualizations for our scientific data.

“Screenshots” of the upgraded CoE website, as evidence for some of the improvements outlined above, can be found in the Annex.

Performance metrics of the CoE website

Following the above rebuild and upgrades of the CoE website, visitor statistics were successfully enabled using the server-site “awstats” application in J. The application provides detailed reports regarding (among other things): which webpages are garnering the most visits; from which sources; at what times of the day. It has thus been selected to be implemented on the new site for the breadth of

statistics and insights it is able to provide. *Awstats* is used to measure website traffic and related visitor metrics, that can then be analysed to optimize the CoE's relevant approaches to marketing, user experience and server performance. Indicatively, an *awstats* report for 3 -29 July 2020 notes that the site has an average of 105 visits per day, with a total of 3,063 visits for July 2020, while providing an analytic breakdown of visits per day that can be compared with CoE promotional activities, contributing to measuring and assessing their impact.

In line with GDPR the functionality of this tool is covered in the Privacy Policy and Cookie Policy readily available and easily accessible at all times through the footer of the EMME-CARE site. For security purposes, the site is only accessible from within the Cyl network.

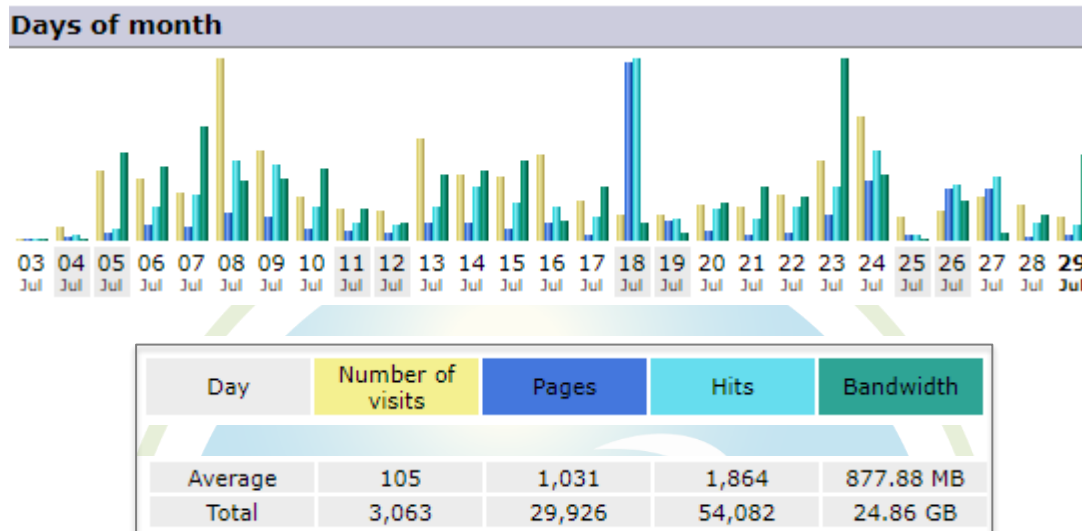



Figure 2.3.1: Snapshot of awstats statistics for the EMME-CARE site (indicative period 3-29 July 2020).

c) *Planned future upgrades to the CoE website*

In the forthcoming months a number of further major upgrades are planned to be brought to the EMME-CARE website. These have been planned in line with what has been provisioned in the Grant Agreement and in alignment with plans outlined in D9.1. Some indicative examples are outlined below:


- 
 The **Cyprus Atmospheric Observatory (CAO)** website. This flagship facility is a major selling point of CARE-C as it will provide new High-Quality environmental observations that are not available currently in the EMME region. The dedicated CAO website is being completely re-organized in line with the structure of the Unmanned Systems Research Laboratory (USRL) website (<https://usrl.cyi.ac.cy/>), with increased multi-media contents, technical information and links to the main EMME-CARE site. The site is already under construction, with a many of the structure, content and functionality already in place. Among other information, the website will display an exhaustive list of near-real-time environmental observations (atmospheric parameters) and a list of scientific instruments (to be) purchased in the context of EMME-CARE (Cyprus Governmental funds) to inform the scientific community about our competitive research capacity and the relevance of our long-term monitoring strategy. Additionally, multi-media features will be added such as a “live webcam” feed that will display in real-time atmospheric (weather) conditions at the location of our environmental observations. Very few such live webcams are available in Cyprus, adding to the attractiveness of this feature. A “plug-in” of the live webcam will be proposed in major Cyprus websites (newspapers, TV channels, etc) with a direct link to the CoE webpage. The purchase and installation of the relevant webcams is underway. A snapshot of the work in progress on the site is included below for reference.



The Cyprus Atmospheric Observatory (CAO) is part of the Climate and Atmosphere Research Center (CARE-C) of The Cyprus Institute, and offers Cyprus-based atmospheric research facilities and related infrastructures for better characterization of regional air pollution and climate change. Accordingly, the mission of CAO is to provide high quality, long-term observations of key atmospheric pollutants relevant to air quality and climate change.



Figure 2.3.2: Snapshot of “work-in-progress” on the CAO website.

- 
Environmental Data webpage. A new page will be created, the position for which has already been provisioned on the high-level menu of the CoE site. Several attractive contents are under construction to be displayed here such as a [data visualization tool](#) to display weather and air pollutant observations in close to real-time. Collaborations with the Department of Labour Inspection (Air Quality Stations Network) and Department of Environment (Weather Stations Network) are aimed to enable the fast and efficient implementation of such data visualisation applications. The longer-term ambition here is to become established as the go-to Online Resource for Environmental Observations in Cyprus. Further, an “environmental data repository” will be created following the structure established with the EU-FP7 DARECLIMED webpage at the Cyprus Institute (<https://www.cyi.ac.cy/index.php/dareclimed-data-repository.html>). More relevant updates regarding the management and accessibility of CoE research data, in section 3.1 of this deliverable. Finally, the intention is the development of this work will align with the creation of an adjacent app, with real-time weather and air quality monitoring data as outlined in the Grant Agreement (sections 2.2.1, 2.2.2 & 2.2.3).

2.4 Other dissemination activities related to national and regional clusters, and R&D and student mobility programmes.




National clusters

During the reporting period for this deliverable, the CoE has established, strengthened and expanded a growing network of national clusters with a variety of academic, public and private stakeholders. These are outlined below:

- 
Academia and other “Teaming” CoEs in Cyprus, for collaboration and joint exchanges in terms of research projects and publications

Cluster

- University of Cyprus
- European University Cyprus

- Excelsior CoE - Excellence Research Centre for Earth Surveillance and Space-based Monitoring of the Environment (Teaming phase II / 2nd call)
- RISE CoE– Research Centre on Interactive Media Smart Systems and Emerging Technologies (Teaming phase I / 1st call)
- 
Associations and NGOs, for dissemination of CoE activities and results and networking
 - Cluster
 - Health Insurance Organization
 - Cyprus Employers and Industrialists Federation
 - Cyprus Chamber of Commerce and Industry
- 
Government Departments of the Republic of Cyprus, regarding staff affiliations, education and training, services provision, establishing MoUs, the implementation of National Action Plans and in areas of policy consultancy
 - Cluster
 - Department of Environment
 - Department of Labour Inspection
 - Department of Meteorology
 - Cyprus Agriculture Payment Organization
 - Department of Forests
 - Nicosia General Hospital
 - Ministry of Defence
 - Civil Defence Organization
- 
Private Stakeholders, including innovation projects and services and access to research infrastructures
 - Cluster
 - ADITESS Advanced Integrated Solutions & Systems
 - Vassiliko Cement
 - EMBIO Diagnostis

Regional and International clusters

EMME-CARE Regional Professorship Programme

EMME-CARE's Regional Professorship Programme aims to strengthen, expand and enhance collaboration networks in the EMME region to tackle air pollution and climate change and their impacts, through establishing formal collaborations with top Universities in the countries of the EMME region.

The scope of collaboration between the CoE and regional Universities is intended to cut across a number of areas such as the exchange of students, researchers and faculty (e.g. through ERASMUS and other programmes), internships and sabbatical programmes, but also joint research efforts involving the exchange of ideas, methodologies and data, as well as the pursuit of joint publications as a result of joint research or funding opportunities for joint projects. Further as part of the Programme it is expected that partners will share access to each other's research infrastructures, and examine the potential of joint educational initiatives (e.g. joint supervision).

Within the context of the Professorship Programme, the CoE also establishes Faculty affiliations with researchers from Universities in the EMME region.

The networks established by the CoE in the context of the EMME-CARE Professorship Programme include:

- Saint-Joseph University of Beirut, Lebanon
 - MoU signed. Faculty affiliation established with Prof Charbel Affif. October 2019
- University of Cairo and National Research Centre, Cairo, Egypt
 - POLCAIR Field campaign. December 2019 – January 2020
- New York University of Abhu Dhabi (NYUAD), Abhu Dhabi, U.A.E.
 - International Conference (invited speaker) Climate Change Initiative. January 2020
- Kuwait Institute for Scientific Research (KISR), Kuwait
 - International Conference (invited speaker) Professorship Programme. February 2020
- Egypt Japan University of Science & Technology (E-JUST), Egypt
 - MoU signed. June 2020
- The National and Kapodestrian University of Athens (NKUA), Greece
 - MoU signed. Faculty affiliation established with Prof Constantinos Cartalis. July 2020



Figure 2.4.1: Map of EMME-CARE Professorship Programme network

Regional Climate Change Initiative

The Cyprus Government Initiative for Coordinating Climate Change Actions in the Eastern Mediterranean and Middle East (EMME) aims at the development of a Regional Action Plan to address the specific needs and challenges countries are facing in the EMME region, to address and ameliorate the impact of climate change and advance mitigation actions in accordance with the Paris Agreement.

The Initiative was established following the 1st International Conference “Climate Change in the Mediterranean and the Middle East: Challenges & Solutions”, organized by EMME-CARE and the Cyprus Institute in May 2018 in Nicosia and attended by eminent scientists and policy makers from thirty countries as well as leaders of global stature. The principal conclusion of the Conference was that regional concerted climate action is urgently needed. This led to the Cyprus Government’s Initiative for Coordinating Climate Change Actions in the Eastern Mediterranean and Middle East (EMME), which was launched by H.E. President Anastasiades in March 2019.

To achieve the objective of developing a Regional Action Plan on Climate Action Coordination, a detailed work programme for the Initiative has been developed, consisting of two distinct components: a scientific and an intergovernmental component. The intergovernmental component is coordinated by the Cyprus Government, whilst the scientific component of the Initiative has been assigned and will be coordinated by the Cyprus Institute. In line with that, the Cyprus Institute has coordinated the establishment of up to 13 Regional Task Forces, in relevant scientific focus areas. The CoE is key contributor in the work of the Regional Task Forces and a leader in the Task Force on the scientific basis of climate change.

Within the context of EMME-CARE and in the framework of the Cyprus Government Initiative, the CoE is co-organizing the 2nd International Conference on Climate Change in the Mediterranean and the Middle East: Challenges & Solutions, organized under the auspices of the President of the Republic of Cyprus, H.E. Mr. Nicos Anastasiades.

In light of the current situation with the COVID-19 pandemic, the 2nd International Conference on Climate Change in the Mediterranean and the Middle East: Challenges & Solutions co-organized by the CoE and due to take place on the 15th and 16th of October 2020 has been postponed. The Conference will now take place on Thursday, the 14th and Friday, the 15th of October 2021, in Cyprus. It is expected that the Conference in 2021 will attract leading Policy Makers, Scientists, Stakeholders, and Opinion-Leaders from around the world.

At the Conference, the findings of the Regional Scientific Task Forces appointed in the framework of the Cyprus Government Initiative, for which the CoE is a significant contributor and Task Force leader, will be presented and debated. Policy Makers, Stakeholders and Opinion-Leaders will have the opportunity to discuss the proposed measures and solutions and gain an in-depth understanding of the benefits from their implementation in the EMME region.



Figures 2.4.2 and 2.4.3: Presentations at the 1st International Climate Change Conference in Nicosia (May, 2018)

Affiliation scheme with top European Experts to boost R&D capabilities

The CoE boasts a total of 16 affiliated and part-time Faculty / Researchers (4 of which through EMME-CARE Advanced Partners), to enable staff mobility and leverage knowledge, expertise and networks exchange to boost the CoE's R&D capabilities. More specifically this includes 9 Faculty and 7 Researchers from 7 different countries across the four Research Departments of the CoE. Details are included below:

Affiliations per department:

-  Environmental Observations
 - Prof N. Mihalopoulos, Greece
 - Prof A. Schmidt-Ott, TUDelft, the Netherlands
 - Prof M. Vrekoussis, University of Bremen, Germany
 - Associate Prof C. Afif, Saint-Joseph University of Beirut, Lebanon
 - Prof J. Williams, MPIC, Germany
 - Research Scientist R. Sarda – Esteve, CEA, France
 - Research Scientist, J. D. Paris, CEA, France
-  Environmental Predictions
 - Prof J. Lelieveld, MPIC, Germany
 - Prof S. Michaelides, Cyprus Department of Meteorology, Cyprus
 - Senior Researcher F. Tymvios, Cyprus Department of Meteorology, Cyprus
 - Senior Researcher, D Charalambous, Cyprus Department of Meteorology, Cyprus
-  Impacts & Policy
 - Prof C Cartalis, National and Kapodistrian University of Athens, Greece
 - Research Scientist A. Martinou, Cyprus
-  Innovation
 - Prof. V. Serghides, Frederick University, Cyprus
 - Research Scientist G. Mocnik, University of Nova Gorica, Slovenia
 - Research Scientist, Koutras, ADITESS, Cyprus

Other International Networks

In addition to the abovementioned national, regional and international clusters, the CoE also takes advantage of its participation in a number of other internationally esteemed scientific and research networks. More specifically:

-  ACTRIS: Aerosol, Clouds and Trace Gases Research Infrastructure
-  AERONET: Aerosol Robotic Network
-  Earth Networks
-  EURAXESS: Researchers in Motion
-  European Monitoring and Evaluation Programme
-  Future Earth: Research for Global Sustainability
-  ICOS: Integrated Carbon Observation System
-  MedECC: Mediterranean Experts on Climate and environmental Change
-  MENA CORDEX: Middle East North Africa Coordinated Regional Climate Downscaling Experiment
-  WMO-GAW, World Meteorological Organization – Global Atmospheric Watch

Student Mobility Programmes

As outlined in section 1.1.4.2 of the Grant Agreement, and in accordance with the scope and objectives of WP3 Education and Training, with the support of its Advanced Partners, the CoE aims to become a regional hub for student exchanges between EU and the EMME region, as well as promote wider international exchanges. The CoE has taken a number of steps in during the reporting period to promote international mobility. These are outlined below.

International Dual Degree PhD (Cotutelle):

The CoE offers international dual degree PhD opportunities, with many of its international partners – through the Cotutelle scheme. Cotutelle is a mechanism that promotes mobility among doctoral candidates while encouraging scientific cooperation between research teams in different countries. Candidates conduct their research under the oversight of, and with guidance from, a PhD adviser from each of the 2 countries involved in the program. Working jointly, both advisers provide a full measure of supervision for the candidate. The candidate conducts their research in the 2 countries under the terms of the agreement governing the program. The Dual Degree PhD operates under the terms of a formal agreement governing all facets of a candidate’s doctoral program, from admission and enrolment to the defense and the dissertation and the award of the Doctoral Degrees.

For example, current CoE PhD Student Aliki Christodoulou is doing a Dual Degree PhD with the Cyprus Institute and the IMT Lille Douai / University Lille (France); current CoE PhD Yunsong Liu is doing a Dual Degree with the Cyprus Institute and CEA / University Paris-Saclay (France).

This approach not only encourages and enables greater student mobility, and expands international collaboration channels, but it also enhances the attractiveness and competitiveness of the CoE in attracting top-tier PhD candidates to study in Cyprus. Indicatively, the CoE currently has 9 postgraduate students with 11 postgraduate students due to start in October 2020, to be making up 9% and 12% of the CoE’s total population respectively.

Training Opportunities:

Including through leveraging existing tools and opportunities the CoE already subscribes to, such as COST actions and ERASMUS+ (supported by the Cyl Graduate School), a number of training opportunities are being made available to students and early career researchers for international mobility. Indicatively, PhD student Constantina Rousogenous attended a training on TCCON Retrieval Software / Methods, at the University of Bremen on 2 – 12 September 2019. Further, Pierre-Yves Quehe, Technical Research Specialist in Atmospheric Sciences, attended AirCore Training at the LSCE CEA Saclay, on 24-28 February 2020. While around the same time, Maria Kezoudi, Research Assistant in Atmospheric Aerosol Sciences, attended a training on COBALD Sonde at the University of Zurich on 25 – 28 February 2020. The full list of trainings attended by the CoE in section 2.1 of this deliverable.



Figure 2.4.4: AirCore sampling training in LSCE, France



Figure 2.4.5: TCCON training, University of Bremen, Germany

Furthermore, additional opportunities are being offered for increased mobility within the EMME region through the establishment and continuous development of the EMME-CARE Professorship

Programme, especially since student mobility is a key component of the Collaboration Agreements for universities and research institutes participating in the Programme.

Finally, in the context of WP3, the CoE will be supporting the organization of intensive summer and winter schools. The ERASMUS office of the Cyl Graduate School will coordinate these exchanges, fully exploiting emerging ERASMUS+ options for cooperation with the southern Mediterranean region. Indicatively, in the context of Boost Project 5: Science Training for Journalists – Crafting Awareness and Demanding Public Opinion (Education & Training) and in alignment with the EMME-CARE Professorship Programme, the CoE is organizing a summer school (2021) on climate science communications for postgraduate students in Cyprus and the EMME region.



Figure 2.4.6: EMME-CARE Professorship Programme Network

EMME countries highlighted in yellow

White circles: 1,000 and 2,000km distance from Cyprus

Blue dots: partners with existing Memorandum of Understanding (MoU)

White dots: partners with planned MoU

EMME-CARE professorship network

Yellow triangles: established

Green rectangles: to be established

Other dissemination activities relevant to international clustering

MSCA Individual Fellowships

In the context of enhancing its international clustering activities whilst providing opportunities for and attracting early career researchers, the CoE has also launched a campaign to share its expression of interest for hosting Marie Skłodowska-Curie Individual Fellowships (MSCA – IF). More specifically, the CoE has invited applications from postdoctoral researchers in relevant environmental sciences areas looking to enhance their career by gaining experience abroad. To promote this opportunity, a relevant webpage has been created on the CoE's website (<https://emme-care.cyi.ac.cy/opportunities/>), alongside a relevant poster (below) and circulated widely through various channels. More specifically, this included:

- 🌐 CoE owned networks, social media channels and newsletter
- 🌐 EMME-CARE international cluster networks, including its advanced partners and their networks and targeted networks in relevant disciplines such as ACTRIS
- 🌐 EURAXESS (EXTRANET platform and mailing list)
- 🌐 Net4Mobility+ social media accounts, website and online platform

To support the process, the CoE defined the below application steps and timelines:

- 🌐 Eligibility checks and finding a supervisor
 - The CARE-C Research Innovation Support team (RISO) can help you with verifying your eligibility and finding a CARE-C affiliated supervisor. Contact us at coordination.care-c@cyi.ac.cy
- 🌐 Draft proposal writing
 - When: April-August 2020
 - Applicants write their proposal with input and support from their supervisor and the RISO team.
- 🌐 Feedback on the proposal

- When: by mid-August 2020
- Applicants should send their draft proposal (at least 80% completed) to the RISO team for feedback.
- 🌐 Final application submission
 - When: September 2020

Relevant results from the call of applications would be available following the closing and review of relevant submissions.



Figure 2.4.7: CoE's MSCA-IF call for expressions of interest poster

Recruitment

The CoE has also leveraged and seeks to expand its international clustering through activities relevant to recruitment, particularly in regards to Faculty positions.

Specifically, the CoE has set to attract high calibre candidates through headhunting, leveraging networking and partners' collaboration and utilizing a dedicated search committee, and in turn aims to further expand and strengthen its international clusters through attracting and recruiting high-calibre and high-profile international applicants. A relevant factsheet with information about a Career at the CoE has been compiled and widely circulated and advertised to support such activities. This can be accessed on the CoE website (https://emme-care.cyi.ac.cy/wp-content/uploads/careers_brochure.pdf). An excerpt "screenshot" has been included in the Annex for reference.

For example, taking the case of the recently advertised positions of Faculty in Atmospheric Sciences (3 positions) and Professor in Atmospheric Sciences (1 position) these opportunities have been openly and widely advertised, including among others in:

- 🌐 National and International Job-Boards;
- 🌐 Academic Job-Boards;
- 🌐 Social Media Campaigns (owned media, and through competitive service providers such as Academic Positions);
- 🌐 Published in Nature;
- 🌐 EURAXESS – Researchers Mobility ("Jobs" functionality);
- 🌐 European Geosciences Union (EGU); and
- 🌐 Internal and External pertinent Networks (e.g. ACTRIS – Aerosols, Clouds, Trace Gases European Research Infrastructure).

Indicatively, just based on the results of the social media campaign conducted with “Academic Positions”, 2888 users visited the dedicated CoE Job-ad, while 371 of these users became candidates by applying. Please note that at the time of writing this deliverable, the recruitment process has not yet been finalized so we cannot yet report on recruited appointments for these positions.



Figure 2.4.8: Creative used as part of the Academic Positions social media campaign for the recruitment of Faculty Positions in Atmospheric Sciences

3. Knowledge and Data Management and IPR Protection

This section outlines the first annual report on EMME-CARE Knowledge and Data Management and IPR Protection as these link to **D9.3: Data Management Plan (Open Data Pilot)** submitted in February 2020 and **Task 9.2 Knowledge and Data Management, and IPR Protection**, led by the Cyprus Institute. More specifically to Task 9.2. this includes, activities related to:

- Formulation of the Data Management Plan and Formulation and revision of FAIR Strategy (D9.2).
- Formulation and revision of IPR – Intellectual Property Rights strategy, particularly in relation to product and services transfer/commercialisation; standardisation/accreditation activities; spin-off creation.
- Management of national and regional clusters with relevant communities/end-users/policy makers.

This section will further elaborate on the first two activities outlined in Task 9.2, as the management of national and regional clusters has already been expanded at large in section 2.4 of this deliverable.

3.1 Data Management Plan and FAIR Strategy

D9.3: Data Management Plan (Open Data Pilot)

D9.3: Data Management Plan (Open Data Pilot), submitted in February 2020, outlined version 1.0 of the Data Management Plan (DMP), describing the overall approach for producing, collecting and processing research data for EMME-CARE and the Research Departments and Infrastructure Units that have been consolidated in the context of the CoE. More specifically D9.3 outlined:

- **Data Summary**, outlining the types of data collected or generated in the context of the CoE.

- 🌐 **Fair Strategy**, detailing the CoE’s strategy for making data findable, including provisions for metadata, making data openly accessible, making data interoperable, and increasing data re-use (through clarifying licences).
- 🌐 **Allocation of resources**, outlining the approach for ensuring necessary resources for the CoE’s Environmental Data Center.
- 🌐 **Security**, outlining the provisions made for ensuring data security across the CoE and compliance with relevant EU and national regulations (including GDPR).
- 🌐 **Ethical Aspects**, which, as already established in the Grant Agreement (section 2.2.2.), in accordance with the Participant Portal’s Horizon 2020 online manual on “Ethics”, there are no significant ethical issues foreseen within the course of the CoE’s activities.

The DMP has been developed according to EU guidelines for Horizon 2020 projects that produce, collect or process research data as these are outlined in the Horizon 2020 DMP template. In line with these guidelines, version 1.0 of the DMP for EMME-CARE and CARE-C presented in D9.3, was not meant to be final, nor present comprehensive answers to all the questions outlined in the Horizon 2020 DMP template. Instead, the DMP, as outlined in D9.3, is meant to be a living, dynamic document, that will be updated in regular intervals, and for which more, and more granular information, will be made available, as the implementation of the project progresses and relevant activities within it evolve.

Accordingly, since the submission of V1.0 of the DMP, a number of relevant developments have been taken place in the context of the CoE to progress work relating to the DMP’s scope.

To ensure the furthering of the DMP the COE has established a dedicated Data Access Committee (DAC), aimed at overseeing, managing and supporting the implementation and development of the DMP. In turn, the DAC has defined, planned and implemented relevant developments and next steps for the development of the DMP.

A summary of the establishment of the DAC, alongside an overview of the relevant developments it has implemented and its plans for further actions are outlined below.

🌐 **Establishment of Data Access Committee (DAC):**

In accordance with the provisions made in the Grant Agreement (2.2.2) and D9.3, the CoE formed a “Data Access Committee” to provide oversight of the CoE’s activities in areas of data management, set overarching guidelines regarding data access and availability and ensure the long-term validity, relevance and compliance of the CoE’s DMP. The DAC was formally established in May 2020 through the validation of the CoE’s Director. Accordingly, at the time of writing of this deliverable, the DAC includes the following members:

- Head of Environmental Data Center (Chair),
- Research Scientist, Cyprus Atmospheric Observatory
- IT Officer
- Communications Coordinator
- Scientific Coordinator

Since its establishment, the DAC has been overseeing, managing and supporting the implementation of the CoE DMP. To set, review, refine and progress its agenda, the DAC has agreed to adjourn regular meetings. Accordingly, the DAC has already adjourned two virtual meetings (in adherence with COVID remote working measures) at the dates outlined below, while the Committee is planning to re-convene in September 2020.

- First meeting of the DAC, 3 June 2020
- Second meeting of the DAC, 21 July 2020

During the first two meetings outlined above, the DAC agreed on its scope and objectives, and work on implementing already identified actions and defining the next steps of its work.

According to this, the DAC identified the following:

- Potential scientific datasets (observations and climate model simulations) that can be made publicly available, which also conform to the principles of the FAIR data protocol, and align with OpenAIRE principles. For the latter, the Cyprus Institute is in the final stages of developing a data repository based on the free open-source DSpace application (<https://duraspace.org/dspace/>), which is compatible with the OpenAIRE infrastructure.
- The existing scientific data repositories of the CARE-C make use of storage servers hosted at the Cyl High-Performance Computational Facility (HPCF). The aforementioned data storage servers are part of the Atmosphere and Climate Data Center of CARE-C, which is currently under development with the help of our colleagues at the Cyl HPCF.

A summary of established and emerging developments overseen by the DAC is outlined below.

Established and emerging developments

- **Facility-specific databases:** For each facility, an independent database has been designed, along with the relevant data visualization charts. The chart library we chose, is fully interactive, allowing viewers to dynamically zoom in/out, hide/show variables and export both the chart itself and the data behind it, in several popular formats, such as image, vector, acrobat, or excel.
- **Data repository infrastructure:** For the ever-increasing volume of weather models data, a special data repository infrastructure is being prepared in our data center, in which a user-friendly portal will be available where the interested parties will be able to select and download the datasets they want to their personal computers, or directly to the computational nodes they may have, eliminating the need of copying large files.
- **Nextcloud opensource:** Each facility or scientific group will be able to individually publish ad-hoc datasets, measurements, and other scientific documents or multimedia files, either publicly or request-based, by utilizing a cloud repository based on Nextcloud opensource project. Signup to this facility will be free, upon simple email address confirmation.
- **IP Cameras** will be installed in several locations, where it is allowed, in order to provide live video feeds of the surroundings of each facility for our websites. While we do not plan to store every single video, snapshots in regular intervals will be kept from each camera. We plan to showcase these snapshots along with certain air-quality measurements for better visualization.

Plans for further development.






In the coming months, and within the context of the implementation of the EMME-CARE Teaming project the DAC plans to categorize and classify CoE datasets to inform further action. More specifically, these will be organized into three categories of data: i) openly/publicly accessible, ii) partially restricted, and iii) sensitive/confidential/protected data (e.g. scientific information related to ongoing research projects that have not gone through a peer scientific evaluation that will lead to a scientific publication, or those whose publication might inflict a conflict of interest for exploitation activities). For each of these categories, the CoE will provide explanations for why data should belong to segments ii & iii, and define and implement the

process(es) through which data will be accessed for segments i & ii. This classification and categorization will inform the larger-scale process through which the CoE will manage its data in the longer-term.

3.2 Formulation and revision of IPR strategy, specifically in the context of exploitation activities (incl. commercialization, spin-off creation etc.)

As per activities of the CoE and its Communication & Outreach Office, exploitation actions have been enabled by the work of the CoE's Innovation Department, with support, when appropriate, from the Cyl's central Entrepreneurship & Innovation Unit. It should also be mentioned that, as already outlined in D9.2 Structure of the Communication Outreach Office and PDER Plan, exploitation activities are also being informed by know-how both at in-house and Advanced Partners' levels, as well as Horizon 2020 available resources on IPR, such as the European IPR Helpdesk's "Fact Sheet on managing IP in Horizon 2020"², and the CoE's relevant strategy and policies as per the CEA-led Task 8.1 "Creation of a competitive Innovation Department". Within this framework, according formulation and revision of the CoE-IPR-strategy's exploitation activities have taken place during the period reported herein.

In line with the above, and building on what has already been stated in the Grant Agreement (section 2.2.1), and in the context of WP8: Innovation Department and Boost Projects, the CoE has actively been pursuing the building, enhancing and expansion of its innovation and exploitation activities primarily through its Boost Project activities. The main objectives of Boost Projects are to maximize the upgraded research and innovation capacities of the new CoE, boost scientific production and generation of new products and services, accelerate the competitiveness of the new CoE, engage newly recruited/trained research and technical staff, and last but not least, enhance the international visibility of the CoE. Five (5) Boost projects were selected in 2018, during EMME-CARE Phase I, to be supported by Funds from the Government of Cyprus. These Boost Projects concern the following areas:

-  EMME Emission inventory and Trends (Research).
-  CO2 City Emissions (Research).
-  Chemical Warfare Agents and Explosives (Innovation).
-  Cost-Effective Air Quality Sensor Networks (Innovation).
-  Science Training for Journalists – Crafting Awareness and Demanding Public Opinion (Education & Training).

The signing of Collaboration Agreements for these projects is to take place during 2019 – 2020. At the time of writing, three out of five relevant agreements have already been signed, with specific provision in regards to the formulation and revision of IPR being made tailored to the needs of each specific Boost Project, as defined, agreed and signed by its consortium.

CoE IPR Strategy and Data Re-use







As outlined in D9.3, section 2.4: Increased data re-use (through clarifying licences), in accordance with the EMME-CARE project's and CARE-C IPR strategy, data and data outputs produced in the framework of the CoE will be classified using levels and criteria defined according to final use, and regulated by the signed EMME-CARE Consortium Agreement (CA Section 8: Results) to manage ownership and access to key knowledge (CA Section 9: Access Rights). This might include patenting, licensing or otherwise restricting the use of datasets or processes relevant to the gathering, collection or processing of data, in relation to potential exploitation activities including commercialization and spin-off creation. Further to this, publicised data that have gone through the appropriate processing and quality control,

²<http://www.iprhelpdesk.eu/sites/default/files/newsdocuments/Fact-Sheet-IP-Management-H2020-Project-Implementation-and-Conclusion.pdf>

will be made available publicly as soon as possible, for use in non-commercial research, educational and other wider knowledge exchange purposes. The intention is for this data to be made and remain available for indefinite use, or for as long as they remain relevant, even after the end of the project.

4. Communication, Outreach & Public Engagement

This section outlines the First Annual report on EMME-CARE Communication, Outreach & Public Engagement as these link to **D9.2: Structure of the Communication & Outreach Office and PDER Plan** and **Task 9.3 Communication, Outreach and Public Engagement**, led by the Cyprus Institute. More specifically to Task 9.3, this includes:

-  Creation of the CoE's social media profile and public forum.
-  Creation of giveaways, memorabilia and distribution of promotional material.
-  Organisation of climate change conference series (see Section 2.2.3.3) every two to three years.
-  Creation and update of web and mobile app, with real-time weather and air quality monitoring.
-  Implementation of boost project on science training for journalists.
-  Establishment and continued function of permanent exhibition halls (Cyprus Atmospheric Observatory in Peyia and EMME-CARE Headquarter in Nicosia).

In the context of the above, the First Annual Report also includes other communication, outreach and public engagement activities including press releases and features in the press including, articles, news items and interviews and relevant activities that have taken place in response or as a consequence of the COVID-19 pandemic and other events of national, regional and global significance.

Establishment of the CoE Communication & Outreach Office within RISO

As already outlined in D9.2, the key role for the CoE Communication & Outreach Office is to contribute to the long-term sustainability, growth and socio-economic outreach of the centre for the benefit of Cyprus and the wider Eastern Mediterranean and Middle East region (EMME), through the planning, coordination and implementation of dissemination, exploitation and communication & outreach activities in the context of the CoE.

We recognise that given the novel character of the Cyl and the lack of a substantial scientific tradition in Cyprus, outreach and general publicity activities are even more vital for EMME-CARE than they would have been for projects primarily concerned with countries with much longer and richer research traditions.

To support the objectives of the EMME-CARE project, and to actively address these concerns by improving information flows to both local and international communities, the CoE Communication & Outreach Office was established within the Research & Innovation Support Office (RISO) in January 2020.

The Communication & Outreach Office bears specific responsibility for the coordination, planning, implementation, monitoring and evaluation of CoE's activities relating to the communication, dissemination and exploitation of research outcomes and results.

In terms of its structure, the Communication & Outreach Office is headed by CoE's Communications Coordinator under the management and guidance of the CoE Director. In addition to the Communications Coordinator, the Communication & Outreach Office team benefits from the active involvement of CoE's Scientific Coordinator, and is supported by input provided from the wider RISO team, including CoE's IT Technical Research Specialist, and other CoE offices as appropriate. More

specifically, the Communication & Outreach Office will be working in close collaboration with the CoE's Education Office, to coordinate activities with a particular focus on areas of outreach, and the Innovation, and Impact & Policy departments with a view of managing activities in areas of dissemination and exploitation of research results. More information on how the Communication & Outreach Office has been structured in the context of RISO and its overall governance can be found in the RISO Taskogram in the Annex.

The CoE's Communication & Outreach Office is also benefitting from close collaboration, resource sharing and knowledge exchange with relevant centralised Cyl functions, such as the Communications Office, the Events Office and the Innovation & Entrepreneurship Office.

As already set out in the roadmap for the development of the CoE Communication & Outreach Office within RISO in D9.2 (1.2) the Office intends to expand the resources, expertise and overall means available to it, in order to be able to support the changing needs of the CoE as this grows and evolves, and in turn continue to contribute to the enablement of the CoE's future growth through the Office's communication, dissemination and exploitation activities. To achieve this, the structure of the CoE will be periodically reviewed according to the pre-set timeline of evaluation reports for the EMME-CARE project, to align on next steps and take appropriate action. Following relevant evaluation, it has been established that at this time no additional changes are required to the structure of the Office. The existing members of the Office have been partaking in relevant professional development activities to support the expansion of internal expertise of the Office – for example, through the CoE Communications Coordinator actively participating in a 3-day digital workshop organized by EIT Climate-KIC Regional Innovation Scheme (RIS) Hubs on sense-making, outreach and climate communications on 24 – 26 June 2020.

The activities of the Office have been guided, planned and coordinated based on the direction set by the CoE's PDER, for all dissemination and exploitation activities, and the Communication Strategy as this has been set in the Grant Agreement (section 2.2.3), and consolidated and refined in the evolving Plan for Communication and Outreach (PCOC) of the CoE. These have been updated and adapted to respond to the unforeseen circumstances brought by the pandemic – with specific changes in regards to both the content and format of key messages and several activities as these have been outlined in more detail in section 1 of this deliverable.

Accordingly, the subsections that follow detail information about the Communication, Outreach & Public Engagement activities undertaken by the Communication & Outreach Office within RISO for the reporting period of the First Annual Report.

4.1 Creation of social media profiles and public forum

To support and enable its communication, outreach and public engagement activities the CoE has created a suite of dedicated social media accounts. As already outlined in D9.2, the intention behind the creation of these accounts was that they are developed as a cluster to speak to the various stakeholders of the CoE. Beyond communication and outreach, the accounts have also been developed and managed with a specific focus on dissemination and exploitation activities as they are best suited to each channel. Specifically, the accounts are:

 **Facebook** - <https://www.facebook.com/EMMECARE/>

Acting as a generalist channel, with a growing follower base, geared towards interested groups in academia and the science community, as well as industry and the wider public.

 **Twitter** - <https://twitter.com/emmecare>

As, arguably, the preferred social media platform for the press, as well as a popular platform amongst policymakers, and industry figureheads, twitter has a specific focus on these areas, alongside content geared towards the wider science community and the public.

 **LinkedIn** - <https://www.linkedin.com/company/emme-care/>

As the professional social network, LinkedIn is leveraged by EMME-CARE to raise the CoE's profile in the professional community primarily for dissemination and exploitation purposes, and to support recruitment.

 **Research Gate** - <https://www.researchgate.net/project/EMME-CARE-Eastern-Mediterranean-Middle-East-Climate-Atmosphere-Research-Centre>

Dedicated to the science and academic community, relevant research networks and clusters that leverage the platform for dissemination purposes.

Over the past year, the CoE has employed a targeted social media content strategy, with specific focus on Facebook and Twitter to expand its reach and impact in its target audiences, ultimately raising awareness and visibility for its purpose, activities and results of the CoE. Content shared by the CoE, primarily focuses on circulating news, event and accomplishments from the Center, its Advanced Partners and its national, regional and international networks, as well as participating in relevant and timely discussions in the global community through sharing and engaging with content from internationally reputable sources, such as United Nations Departments, the European Commission and others.

The CoE also benefits from the active support of its partners and networks, in sharing and re-tweeting its content. A couple of relevant examples are demonstrated in the figures below – with retweets from the Saint-Joseph University of Lebanon (part of EMME-CARE Regional Professorship Programme) and the European Space Agency (the coordinator for the Aeolus in the Tropics campaign the CoE will be participating in 2021).

These efforts have culminated to a steady expansion of the CoE's online community, with **over 1,200 followers for CoE social media platforms and nearly 20,000 monthly impressions for content relevant to the CoE** (at the time of writing of this deliverable), which the CoE aims to continue to grow and expand in both size and reach for its online community. Indicatively, at the time of writing (August 2020) the EMME-CARE twitter account has attracted 145 new followers during the period reported in this deliverable, which marks a notable **59% increase in twitter followers since August 2019**. Similarly, the CoE's Facebook Page has gathered a sizeable support of 562 followers. These efforts on social media, in combination with the CoE's website and e-newsletter have thoroughly contributed to the creation of a public forum for the mutual exchange of information and feedback, in line with the commitment the CoE made (GA 2.2.3).



Figure 4.1.1: Re-tweet of CoE content by USJ



Figure 4.1.2: Re-tweet of CoE content by ESA (Aeolus mission)

Additional screenshots of the CoE's activities on social media can be found in the Annex.

4.2 Creation of giveaways, memorabilia and distribution of promotional material

In line with the goals set out in the Grant Agreement (2.2.3) and the CoE PDER plan (whose updates were outlined in detail in D9.2) for leveraging branding and communication approaches for maximizing the impact of EMME-CARE, the CoE has designed and produced a range of promotional materials, giveaways and memorabilia.

In addition to the brochures and leaflets, already expanded on in section 2.1 of this deliverable, giveaways and memorabilia include designs for re-usable cups made from recyclable material, mugs, pens, lanyards, pins and tote bags. These giveaways and memorabilia all bear the EMME-CARE logo and are created using the CoE's visual pallet to ensure that they convey visual coherence and consistency with the CoE's brand. The specific objects created were also selected based on functionality, ease of use and usefulness for its potential users, but were also considered as environmentally friendly options for everyday products (such as carrier bags, coffee cups or water bottles), hence providing practical solutions that are aligned with the CoE's mission for promoting climate change adaption and mitigation in the EMME region.

CoE promotional material, giveaways and memorabilia, have been widely distributed in all formal CoE meetings with external contacts, they have been shared in the context of conferences, workshops and other events hosted by the CoE, while CoE research, technical and administrative staff have been given selected material to use themselves – and hence indirectly feature the CoE brand and message in everyday life – and to share in selected and targeted conferences, workshops and/or other relevant events that they might be participating or attending in Cyprus and internationally. The material has also been used to create “briefing packs” and giveaway mementos to delegations of formal visits to the CoE (e.g. by Departments of the Government of Cyprus) by preparing and distributing individual EMME-CARE bags, with selected promotional material specifically tailored to the occasion and purpose of each visit. Indicative photos of some of the giveaways, memorabilia and other promotional material created and distributed by the CoE can be found below.



Figures 4.2.1 and 4.2.2: Photos of some of the promotional merchandise produced for EMME-CARE

4.3 Outreach and Public Engagement Events

Over the reporting period, the CoE has organized, actively participated and attended a number of events with outreach and public engagement events as well as other events with outreach and public engagement elements and opportunities that it has capitalized on to enhance its visibility and impact. These included events relevant to the launch of the EMME-CARE project (Phase II) as well as public seminars and colloquia. These events contributed to the creation of a public forum with the EMME-CARE stakeholder community and the wider public at large, both through face-to-face communication, and increasingly digitally – through online events and in conversations taking place on social media platforms during, and following said events.

Expectedly, the COVID-19 pandemic had considerable impact on the outreach and public engagement activities of the CoE, particularly for events that were originally planned to take place from March 2020 onwards, with the vast majority of planned events having to be either cancelled or postponed. This included the cancellation of “sCYence Fair”; a large-scale public outreach event organized annually in April by the Cyl, that the CoE was due to be co-organizing, and the postponement of the 2nd International Climate Change Conference to October 2021. A comprehensive list of the impact of the pandemic on scheduled events of the CoE can be found in the [Annex](#). Wherever possible, and always in compliance with Government guidelines about COVID-19, the CoE engaged in digital events to ensure the continuity and expansion of its outreach and public engagement. The CoE has also participated in the organization and launch of a number of digital events as well – such as webinars and digital seminars.

More information and selected highlights from outreach and public engagement events the CoE has organized or participated during the reporting period of this deliverable, are outlined below. The latest information about upcoming CoE events can be found on the dedicated webpage of the CoE website (<https://emme-care.cyi.ac.cy/news>) as well as at the Cyprus Institute’s website (www.cyi.ac.cy).

EMME-CARE Public Launch

The Public Launching Event of EMME-CARE took place on 8 October 2019. This was organized in Nicosia, at CYI premises, **under the Auspices of the Cypriot Minister of Environment**. It should be noted that it was attended by **more than 170 participants**, including several Ambassadors from Member States, Countries of the EMME and the world, as well as the European Commission and Research Executive Agency and the European Commission Representation in Cyprus, several

representatives of Ministries and Government Departments, several representatives of Cypriot Academia and Research, several representatives of companies, and the wide public. The event received sizeable coverage from national printed and broadcasting outlets, while it was also featured at the website of the European Office of Cyprus (www.eoc.org.cy).



Figures 4.3.1 and 4.3.2: Left. Agriculture Minister Costas Kadis at the EMME-CARE launch. Right. Photo of attendees.

Public Seminars, Colloquia and Lectures

- Public Lecture: “Climate Change: From Doubt to Evidence – Global and Regional Aspects” with Dr Michel Jarraud, Secretary-General Emeritus of the World Meteorological Organization (October 2019, Cyl premises)

This public talk was organized within the context of the launch of EMME-CARE. It took place on Monday, 7 October 2019 at the Cyprus Institute Novel Technologies Laboratories (NTL) Building. Dr Jarraud’s talk focused on how climate science can inform policy and decision making at all scales, from global to regional to local, in the context of a changing climate. It provided an historical perspective and described how the IPCC process developed, in order to make available the most authoritative information, with respect to climate change, the anthropogenic contribution to it and the necessity (and urgency) to deal with both mitigation and adaptation aspects. It also addressed the linkages with sustainable development issues and the need to adjust governance mechanisms, and presented future perspectives.

The talk generated great public interest, having attracted a full auditorium on the day, and being featured in major national news outlets such as “*Politis*” Newspaper and “*Ant1*” news. The event was also livestreamed through Cyl digital platforms on YouTube.



Figures 4.3.3 and 4.3.4: Photos from Dr Jarraud’s lecture in the context of EMME-CARE’s launch, Nicosia, December 2019.

- Colloquium: Atmospheric Research from Past to Future - Personal Perspective with Prof. Pinhas Alpert, Professor of Dynamic Meteorology and Climate, Tel-Aviv University, Israel

This public event took place on Tuesday, 10 December 2019 at the Cyprus Institute Campus in Athalassa, Nicosia. Prof Pinhas Alpert talk focused on reflections and lessons learned from a life time dedicated to atmospheric sciences. Developing methodologies that have been applied by many scientists in a variety of environmental studies, including paleoclimatology, limnology, regional climate change, rainfall analysis, cloud modelling, pollution, crop growth, as well as forecasting. Contributing to systematic climatological analysis of Mediterranean cyclones and understanding of the reduced precipitation in the Eastern Mediterranean and the Middle East, particularly regarding the drought of the Fertile Crescent. Pushing new concepts in global models such as the incorporation of aerosol effects in climate simulations suggesting using new sources of data and analysis mechanisms. Establishing research, data and forecasting centres to support national and regional needs for daily operational dust storm predictions, efficient educational systems and data sharing, inspiring a whole new generation of researchers.

The talk took place as part of the Cyl's regular and very popular Public Colloquia series that attracts a lot of interest from audiences in the Nicosia region. The event was also livestreamed through Cyl digital platforms on YouTube.



Figure 4.3.5: Photo from Prof Pinhas Alpert's public talk, Nicosia, December 2019.

- Public Lecture - 2019 Ronald Ross Series: "Climate Change: What Is Happening and What We Can Do About It" with Prof. Joanna D. Haigh CBE FRS is a climate scientist and recently retired, co-Director of the Grantham Institute on Climate Change and the Environment at Imperial College London

This public event took place on Tuesday, 17 December 2019 at the Novel Technologies Laboratories (NTL) Building at the Cyl Athalassa Campus in Nicosia. The talk examined the scientific evidence for climate change in the context of natural variations and discussed how increasing concentrations of "greenhouse gases" (GHGs), especially carbon dioxide, create an imbalance in the Earth's energy budget with impacts on temperature, sea level and weather patterns. It also examined how basic physics can be used to construct the computer models which are employed to investigate climate processes and look at potential future impacts across the world of increasing GHGs. It also considered what needs to be done to reduce GHG emissions in order for the world to avoid dangerous levels of warming, and where we are heading following the United Nations climate change agreements.

The talk gathered great public interest, delivered amidst a full auditorium and livestreamed through Cyl channels, and was also featured heavily in national print and broadcast media, highlighting concerns about the urgency for climate action in perfect alignment with EMME-CARE's outreach objectives.



Figures 4.3.6 and 4.3.7: (left) Prof. Joanna D. Haigh's lecture, Nicosia, December 2019; (right) Feature of the lecture in national news channel (*Sigma TV*).

Colloquium: Atmospheric Nanoparticles, Air Quality and Climate Change with Prof Spyros Pandis, University of Patras (Greece)

On Thursday, 30 January 2020, Cyl hosted at Athalassa Campus in Nicosia, Prof. Spyros Pandis, from the Chemical Engineering Department, of the University of Patras (Greece), and Carnegie Mellon University (USA). The event was open to the public and it attracted a varied audience of scientists, researchers and academics as well as interested members of the public.

Digital Events

Webinar: SARS-CoV-2 in the Air: A Major Route of Transmission for the COVID-19 Diseases with Prof Jean Sciare, CARE-C Director and EMME-CARE Coordinator

Infected individuals coughing, sneezing, or exhaling (when speaking) produce a large quantity of virus-laden droplets and aerosols that can remain in the air for several hours. Every new scientific paper on airborne transmission of SARS-CoV-2 brings more evidence on the importance of this mechanism in the transmission of the COVID-19 diseases.

On Thursday the 21st of May, Prof. Jean Sciare, Director of the Climate and Atmosphere Research Center of the Cyprus Institute and Coordinator of EMME-CARE, presented the webinar entitled "SARS-CoV-2 in the Air: A Major Route of Transmission for the COVID-19 Diseases". The webinar provided a brief overview and synthesis of the most recent scientific studies published on the characteristics of airborne SARS-CoV-2. Size distribution (between droplets and aerosols), viability, and atmospheric dispersion mechanisms were discussed. The presentation also introduced current research activities initiated on this topic by the Cyprus Institute in collaboration with the Cyprus Institute of Neurology and Genetics, the Intensive Care Unit of the Nicosia General Hospital, and the Cyprus Civil Defence. The objective of this research (supported by the "Cyl COVID-19 Internal Research Call") has been to demonstrate the added value of a "Bioaerosol Network" in monitoring the presence of airborne SARS-CoV-2 within large indoor public areas to alert on the potential risk of local contamination, and therefore allow for immediate mitigation actions (shutdown and disinfection). If operated continuously, such bioaerosol networks could become an early warning system to geolocate the presence of new infectious clusters, information which is strategic for combating the large-scale spreading of the virus.

The webinar generated far-reaching interest and **reached over c.2500 views across YouTube and Facebook within 5 weeks of its broadcast**. The "SARS-CoV-2 in the Air: A Major Route of Transmission for the COVID-19 Diseases" can be accessed by the public at any time through YouTube (<https://www.youtube.com/watch?v=nLiPtT0k2L0&feature=youtu.be>) . Following the webinar, Prof

Sciare was also invited to discuss it at an hour-long interview at Saskia Constantinou Unreserved, a popular radio show broadcasted by the Cyprus Broadcasting Corporation (CyBC).

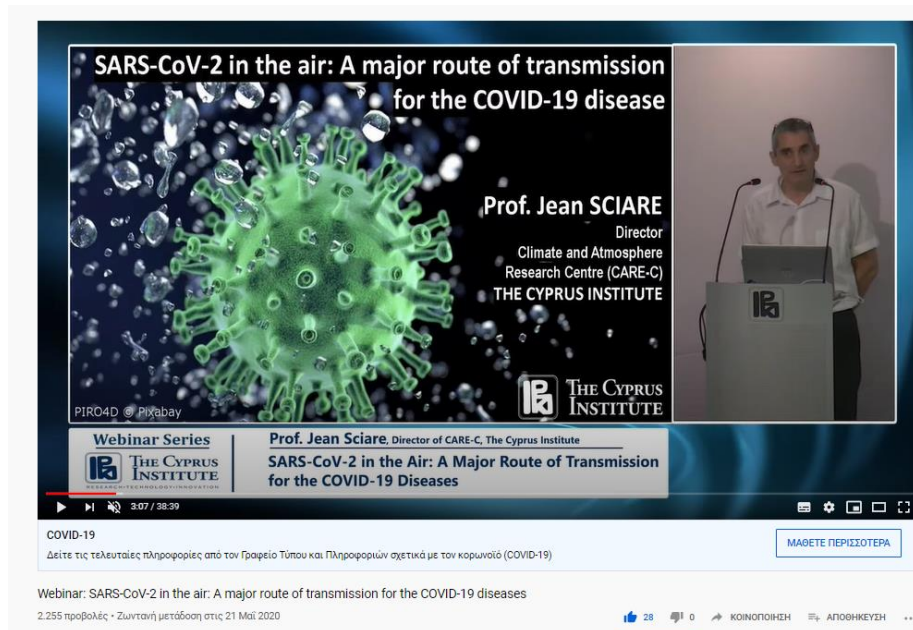


Figure 4.3.8: “Screenshot” of Prof. Sciare’s webinar on YouTube

SDSN Cyprus Branch Launch

On Friday, 12 June 2020, the official launching ceremony of the Cyprus Chapter of the UN Sustainable Development Solutions Network (SDSN Cyprus), was held virtually via teleconferencing in the presence of H.E. The President of the Republic of Cyprus, Mr. Nicos Anastasiades, leading economist, Prof. Jeffrey Sachs, Director of the Center for Sustainable Development at Columbia University, Global Director of UN SDSN, and Member of the Cyl Board of Trustees, and the Honourable Minister of Agriculture, Rural Development and Environment, Dr. Costas Kadis. The Cyprus Institute is one of the 17 members of the Leadership Council of SDSN Cyprus, made up from five universities/ research organizations (Frederick University, Neapolis University Paphos, Cyprus University of Technology, University of Nicosia and the Cyprus Institute), 3 NGOs (Birdlife Cyprus, CYMEPA, AKTI) and 10 representatives from the public and private sectors in Cyprus. The aims of the SDSN network are completely aligned with those of EMME-CARE and Cyl’s active position in the Cyprus Branch is expected to further enhance the CoE’s outreach and public engagement impact.



Figure 4.3.9: Shot from the SDSN Cyprus Branch Launch

Other Events

- 10 September 2019: “Workshop for Research & Innovation regarding the National Plan for Energy and Climate”, Nicosia, organized by the Cypriot Government’s Department of Environment.
- 23 September 2019: “United Nations Summit on Climate Change”, New York USA; participation of CYI-President alongside the President of the Republic of Cyprus, the Minister of Foreign Affairs and the Minister of Environment, as the President of the Republic’s Special Envoy on Climate Change.




- 24-26 September 2019: “European R&I Days”, Brussels, organized by the European Commission.



- 24 September 2019: “2nd H2020 Policy Support Facility Meeting” with Coordinators of Cypriot TEAMING Projects, Nicosia, organized by the Cypriot General Directorate for European Programmes, Coordination and Development (DG EPCD).
- 27 September 2019: “European Researchers’ Night”, Nicosia, organized by the Cyprus Research & Innovation Foundation with European Commission funding; 30m2 booth-kiosk with

hands-on experiments, interactive high-definition on-screens, and live exhibition corner.

- 
 17 October 2019: “Workshop for the Support of the Establishment and Operation of the TEAMING Centers of Excellence”, Nicosia, organized by the Cypriot Chief Scientist with collaboration of DG EPCD.

4.4 CoE Website Upgrade and scoping of web and mobile-app creation

As outlined in the Grant Agreement (2.2.3) and further elaborated in D9.2, the CoE will develop an application, as part of its communication, outreach and public engagement efforts that will include the display of real-time weather and air quality monitoring data and forecasting products for Cyprus and the EMME region. More specifically, steps have been taken to enable real-time data monitoring display – including visualizations of instrument measurements – while the CoE has also progressed with the process for the purchasing of web cameras. A relevant “Data” section has been created in the EMME-CARE website with the associated high-level menu item, to be populated with real-time data monitoring visualizations from the CoE as these become available, and as a pre-cursor to the full-blown application. The changes made to rebuild and further upgrade the website, already outlined in section 2.2 of this deliverable, have set the technical foundations for developing the functionality to build the relevant web application and integrating it with the EMME-CARE website.

4.5 Implementation of boost project on science training for journalists (Boost Change).

Part of the EMME-CARE Boost Project suite, the main purpose of “Boost Change” is to enable the Cyprus Institute and its partners to contribute to the emergence of an advanced, well-informed and demanding public opinion in the Eastern Mediterranean and Middle East (EMME) on matters of climate change, its impacts and mitigation. To help ensure that climate change is factored in to relevant decision-making and key stakeholders and the public are able to translate relevant knowledge into actionable insights and action. This will be achieved by boosting the capacity of societal relays to leverage the diffusion of high quality knowledge about climate change and its consequences within society, with a specific focus on the EMME region.

Accordingly, over the past months the scope and high-level implementation plan of the project has been updated and refined from the original outlined in the Grant Agreement (2.2.1), to better enable the above purpose. Accordingly, the project’s activities have been shaped around four target audience groups which have been identified, and for which a tailored action strategy has been defined. At the time of writing, the current shape of these have been shaped as follows:

1. Opinion leaders (journalists, communication officers, influencers)

Objective: Equip journalists, communication officers and influencers with the knowledge and tools to better comprehend and effectively relay high quality knowledge on climate change and its impacts on society (in the EMME)

Action strategy

- Creation of standalone online short modules in English and Arabic
- Design, organization and running of a dedicated workshop in the context of the International Climate Change Conference

2. Decision makers (policy-makers, politicians, government officials, industry leaders)

Objective: Promote science diplomacy and green economy transition within the frame of the CoE's Impact & Policy Dept, the EMME-CARE Professorship Programme and the Cyprus Government Climate Change Initiative and in collaboration with Cyl Entrepreneurship & Innovation office

Action strategy

- Creation of standalone online short modules in English and Arabic
- Design, organisation and running of a dedicated workshop in the context of the International Climate Change Conference

3. Future leaders and decision-makers

Objective: Support the upskilling of early career researchers in science communications and equip more experienced scientists with the knowledge and tools for how to communicate about climate change and its impact in a more accessible way.

Action strategy

- Design, organisation and running of summer school for Master's and PhD students, engineers and early-career scientists regarding aspects of climate change and air pollution, and science communications to disseminate their work and advance their career (incl. writing papers, doing presentations, how to better promote research activities within own countries and the region).
- Introductory media training module for experienced researchers on how to communicate scientific knowledge in a more accessible way

4. Public and civil society

Objective: Raise awareness of the impacts and urgency to address climate change in the region, and encourage and enable the public to translate knowledge into climate action (with a long-term view to influence personal behaviour, policy and industry).

Action strategy

- Organisation of a 2-3-day festival (with physical and online elements) on regional climate change and environmental issues. This will include a film festival with screening and discussion on films relevant to climate change, information sessions, talks and hands-on science experiences / installations (aligned to the 2021 Climate Change Conference).
- Creation and implementation of public awareness campaign for climate action.

The boost project will leverage the emerging and expanding networks of the EMME-CARE Professorship Programme to enhance networking, communications and societal relays in the region. At the same time, the project will also support the strengthening and expansion of the Professorship Programme partners' science communication and diffusion capabilities in matters of climate change, with a specific focus on the EMME region.

Additionally, to further maximize the impact of its activities the boost project will also closely align its programme to the Cyprus Government's Initiative for Coordinating Climate Change Action in the Eastern Mediterranean and Middle East, aimed at the development of a Regional Action Plan to address the specific needs and challenges countries are facing in the EMME region. The Cyprus Institute has been assigned as the scientific coordinator of the Cyprus Government's Initiative, with EMME-CARE playing an integral part in this work as well as the 2nd International Climate Change Conference in the Mediterranean and Middle East: Challenges and Solutions, to take place in 2021 attracting key decision-makers and opinion-leaders from across the EMME region and where a first version of the Action Plan will be presented and discussed.

At the time of writing of this deliverable, the consortium for the project includes the Cyprus Institute, the Université Versailles Saint Quentin en Yvelines/IPSL, Ecole Supérieure de Journalisme de Lille, and Science Partners. The intention is to more actively engage the wider range of EMME-CARE's Advanced

Partners, as well as regional partners from the CoE's networks – such as the Regional Professorship Programme.

Working discussions and meetings have already commenced between the Cyprus Institute and Science Partners on defining and agreeing the final scope and consortium for the project, and to proceed with drafting and signing a collaboration agreement for Boost Change. It is expected that once the above is finalized the project will move into implementation within 2020 as originally planned. The process is further supported by the newly recruited Education Officer of the CoE, Ms Constantina Alexandrou.

4.6 Establishment and continued function of permanent exhibition halls (Cyprus Atmospheric Observatory in Peyia and CoE Headquarters in Nicosia).

As outlined in the Grant Agreement (2.2.3.), the CoE will be creating a permanent exhibition area in the new buildings of the Cyprus Atmospheric Observatory (Peyia) and the CoE Headquarters (Athalassa), which will display the latest innovation, products and services of the CoE, including lively multi-media content illustrating its scientific excellence, as well as accessible education material for school visits and the wider public.

While the new CAO and EMME-CARE buildings are under construction – with the latter estimated to be ready in 2023, the CoE is proceeding with preparing an interim exhibition space its current premises that can lay the foundations, from a functional, design and user experience perspective of what will be created for the permanent spaces in the new buildings. This approach would also enable the CoE to gain experience in the creation, development and management of such an exhibition space and enable it to apply lessons learned in creating the permanent exhibition halls in the new buildings, as well as re-purpose exhibits from the interim space in the permanent halls when these become available.

Accordingly, this initiative is being led by the Communications & Outreach Office which with the support of the Cyl has proceeded with the development of the scope and plan for developing an interim exhibition space for the CoE at the Ground Floor of the Novel Technologies Building (NTL), which is housing a big part of the CoE team whilst the new headquarters are being built. Under the guidance of the CoE Director, the Communications & Outreach Office has compiled a shortlist of proposals for exhibits from the researchers of the CoE, aiming to have at least one exhibit representing an aspect of each of the Departments and Research Infrastructures that are active within the CoE. These include the display of drones, miniaturized sensors and other instruments either created or used by the CoE along with a relevant description and where feasible a digital demonstration of their measurements or practical applications in climate and atmosphere research. Further, this will include climate models and other data visualizations from the CoE's Environmental Predictions Departments. Further if, and where feasible and safe, experiments might also be displayed (e.g. measuring the air quality within the room).

An effort is also being coordinated for the creation of CoE branded scientific posters to be displayed in the interim exhibition space, based on the latest scientific work of the CoE. Finally, the overall effort is being supported by the Infrastructure and Facilities Department of the Cyprus Institute, that is providing guidance from an architectural and spatial design perspective. The intention is for this interim exhibition space to be operational in early 2021, though the feasibility of this timeline will depend on any government or institute level restrictions that might apply during Autumn and Winter 2020 due to the pandemic.

4.7 CoE Press Coverage

As part of its communication, outreach and public engagement activities, the CoE aims and plans for targeted, timely, outcome-driven press releases, features in articles and news items as well as public appearances (in both English and Greek) leading to coverage by the traditional print and broadcast media (incl. articles in newspapers and magazines, and features on radio or TV) to maximize its visibility and impact.

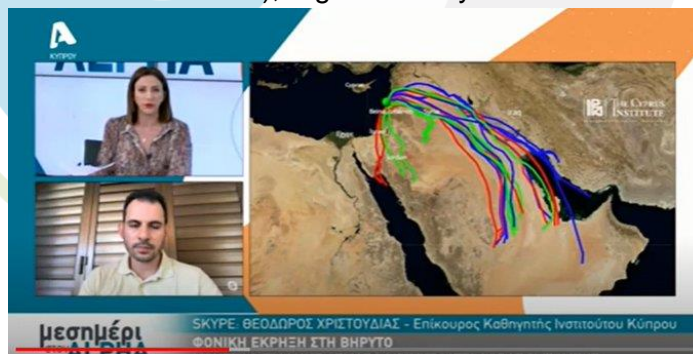
EMME-CARE has been featured in **press coverage in various outlets in eight (8) countries and four (4) continents**. Over the coming years, EMME-CAREs aims to continue to expand its activities in this area and further enhance the visibility, reach and impact of the CoE, its activities and results.

The aim of the press coverage that the CoE is pursuing is twofold: a) to enhance, enrich and expand public awareness and visibility of the CoE its scope, activities and results b) to inform and influence the greater public about matters of climate change and air pollution, contributing to the promotion of relevant mitigation and adaptation actions and becoming a trusted source of scientific knowledge for the people of the region. This is reflected in the press release, interviews and other media activities of the CoE.

Indicatively, below are highlights of some of the most significant press coverage the CoE has received during the reporting period of this deliverable, along with a comprehensive list of all the press coverage it has gained at the time of writing. A constantly updated list of the CoE can be found on the News & Events page of its website (<https://emme-care.cyi.ac.cy/news/>).

Recent Press Highlights

- 05 August 2020 – CoE’s Environmental Prediction Department Models Atmospheric Transport of Pollution After Beirut Explosion. This generated great interest by Cyprus national media generated following a press release with information about the work of the CoE’s research teams. Relevant article featured in almost all major national newspapers and multiple Radio and TV appearances in relevant news segments of major national channels including in Alpha (photo below with Prof Theodoros Christoudias), Sigma and CyBC.



- 13 July 2020 – “Cyprus is witness to global warming”. Article featuring an interview with the CoE’s Head of Environmental Predictions Department, Prof Jos Lelieveld. Featured in the Financial Mirror and News in Cyprus

FinancialMirror

Cyprus is witness to global warming



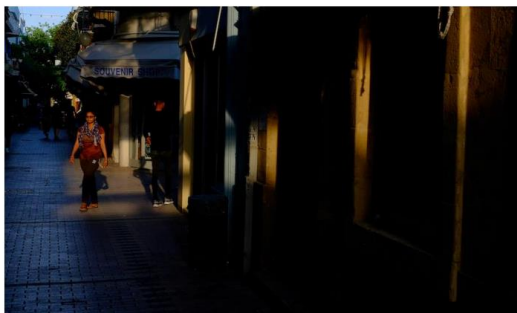
- 10 July 2020 – Dedicated reportage on the CoE’s Unmanned Systems Research Laboratory (USRL) on the Cyprus Broadcasting Corporations (CyBC) evening news segment



- 5 June 2020 – “Reduced air pollution in Nicosia during lockdown”. Joint press release with the Cyprus Department of Labour Inspection. Received major coverage from both national and international press (in English and Greek) including in Cyprus (Alpha, Associated Press), Greece (Kedros), England (Parikiaki) the US (The Washington Post, The Washington Times, Berkshire Eagle - New England Newspapers) and Canada (City News Toronto).



Cyprus study shows big pollutant drop during lockdown



Μείωση της ατμοσφαιρικής ρύπανσης στη Λευκωσία κατά τη διάρκεια της καραντίνας



- March 2020 – “The world faces an air pollution pandemic”. Wide coverage in Cyprus and internationally relating to research from Prof Jos Lelieveld on the impacts of air pollution on human health. Countries where this was featured in the press included India (Daijiworld), Australia (Sciencealert), Cyprus (Phileletheros) and Greece (Skai).




HEALTH

The World's Facing a Silent 'Pandemic' More Dangerous Than Most Viruses: Air Pollution

ΣΚΑΤ

Σχεδόν 3 χρόνια από τη ζωή μας χάνουμε από την ατμοσφαιρική ρύπανση
 ΛΕΝΕ ΟΙ ΕΙΔΙΚΟΙ
 «Είναι αξιοσημείωτο ότι τόσο ο αριθμός των θανάτων όσο και η απώλεια στο προσδόκιμο ζωής λόγω της ρύπανσης του αέρα 'επιταχύνονται' τις επηπτώσεις του κλιματικού και ζεπερνούν κατά πολύ τις άλλες, όπως θανάτων, δήλωσε ο Άλμπερτ».



- 7 January 2020 – “Middle East is ‘the canary in the coal mine’ of climate change”. Article featuring Prof Jos Lelieveld in the National UAE.



Middle East is 'the canary in the coal mine' of climate change

Scientists say the effects of global warming will hit the Middle East hardest over the next decade



Press Coverage Documentation

A full and continuously updated list of the CoE's press coverage is publicly accessible at any time on the CoE's website (<https://emme-care.cyi.ac.cy/news/> - In the Press). Hosting this information on the website as a digital, publicly accessible archive has been selected as it not only ensures the relevance of the information provided it also offers an online resource for journalists, the media or other interested parties to easily access information about the CoE, hence helping to promote the expansion of its current visibility and reach.

5. Contribution of EMME-CARE Advanced Partners to PDER, Communication, Outreach & Public Engagement Activities

To enable and support the contribution of EMME-CARE Advanced Partners to PDER, Communication, Outreach & Public Engagement Activities, the CoE coordinated the definition and appointment of communication contact points for each of its Advanced Partners.

The responsibilities defined in the terms of reference for Advanced Partner Communication contact points are briefly summarized below:

- Help publicize EMME-CARE through Advanced Partner channels and networks, including sharing relevant social media posts, sharing email content and invites, and signposting to professional and industry networks, in coordination with Cyl
- Contribute content for the EMME-CARE newsletter and other outreach material
- Contribute to EMME-CARE WP9 deliverables and reports as per Grant Agreement requirements

- Represent their respective Advanced Partner institution to participate and actively contribute to other activities, meetings and/or events that relate to EMME-CARE communication, dissemination and exploitation activities as required

The EMME-CARE Advanced Partner communication contact points have been agreed as follows:

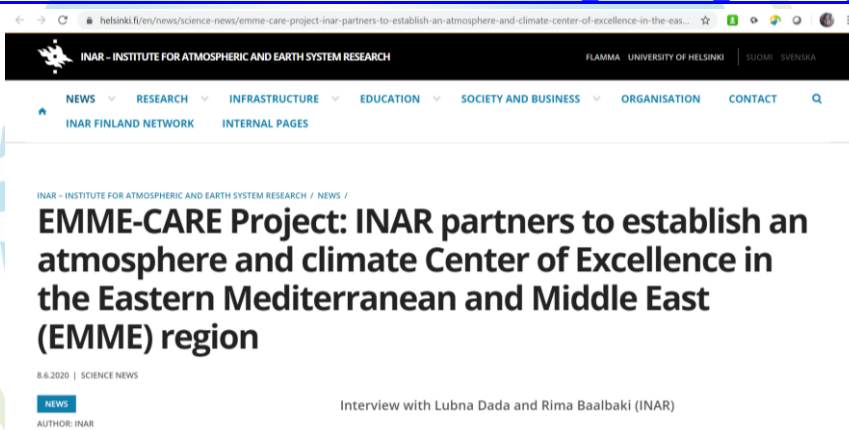
- Max Planck Institute for Chemistry: Marina Darmstadt-Hubscher
- CEA: Philippe Ciaïis
- University of Helsinki: Rima Baalbaki and Lubna Dada

The CoE will be ensuring the continuous, regular and close collaboration with Advanced Partners in matters of communication, including through organizing regular catch-up, planning and coordination meetings between relevant contact points at each Advanced Partner.

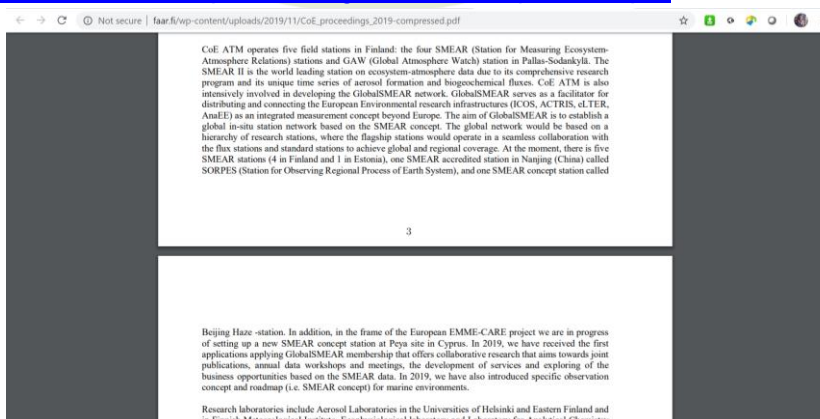
An indicative record of some of the activities that have or are being undertaken by Advanced Partners to support EMME-CARE PDER, communication, outreach and public engagement activities is outlined below.

University of Helsinki

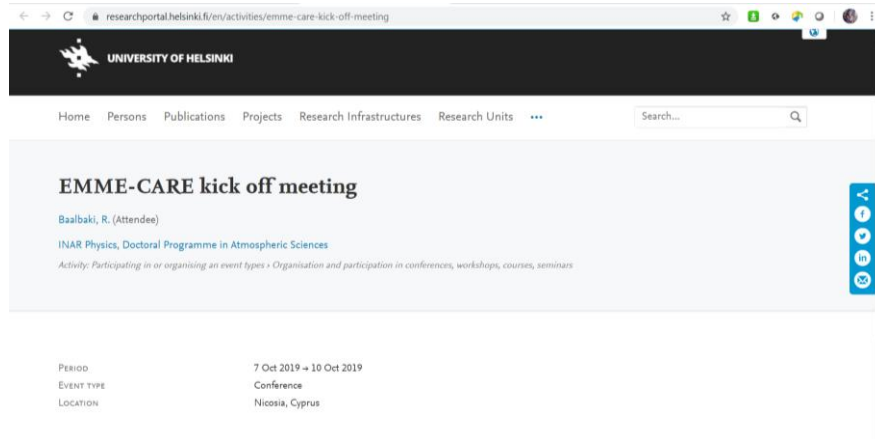
- Interview with Lubna Dada and Rima Baalbak on the University of Helsinki's website, describing the EMME-CARE project and the role of the INAR advanced partner in the project. Full interview https://www.helsinki.fi/sites/default/files/atoms/files/emmecare_interview_inarnews_finaledited.pdf



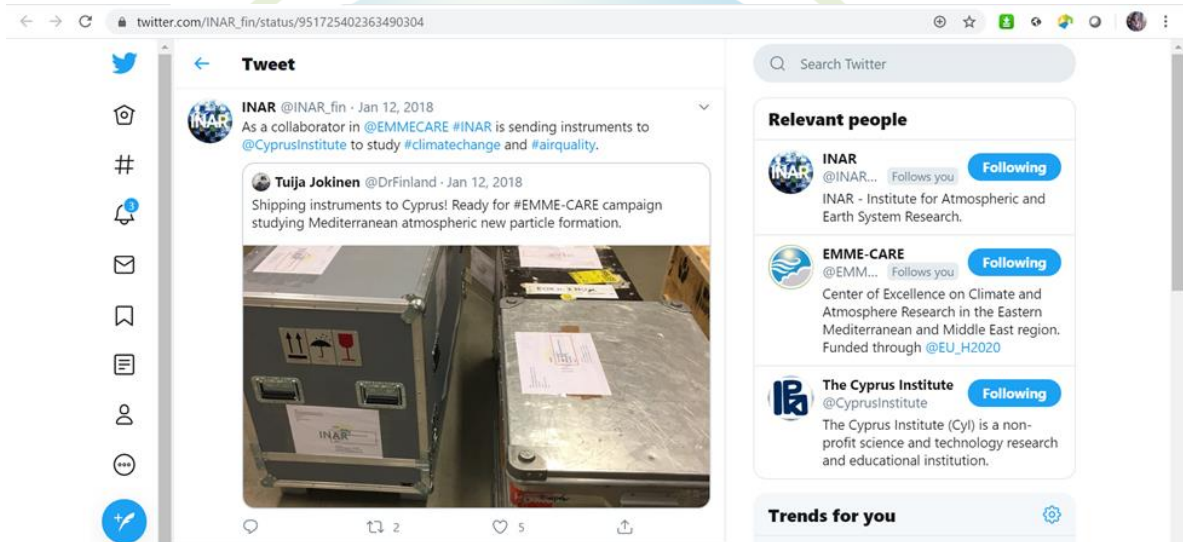
- Excerpt of the Proceedings of the Center of Excellence in Atmospheric Science (CoE ATM) report series as part of the Finnish association of Aerosol Research. http://www.faar.fi/wp-content/uploads/2019/11/CoE_proceedings_2019-compressed.pdf



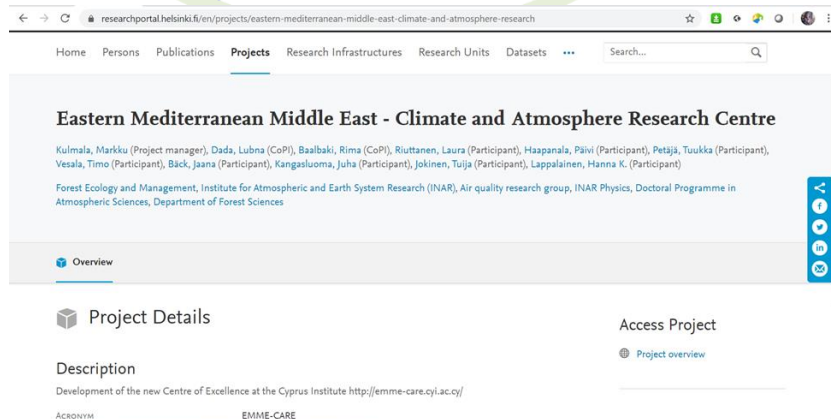
Activities happening in light of EMME-CARE are regularly published on the university website.



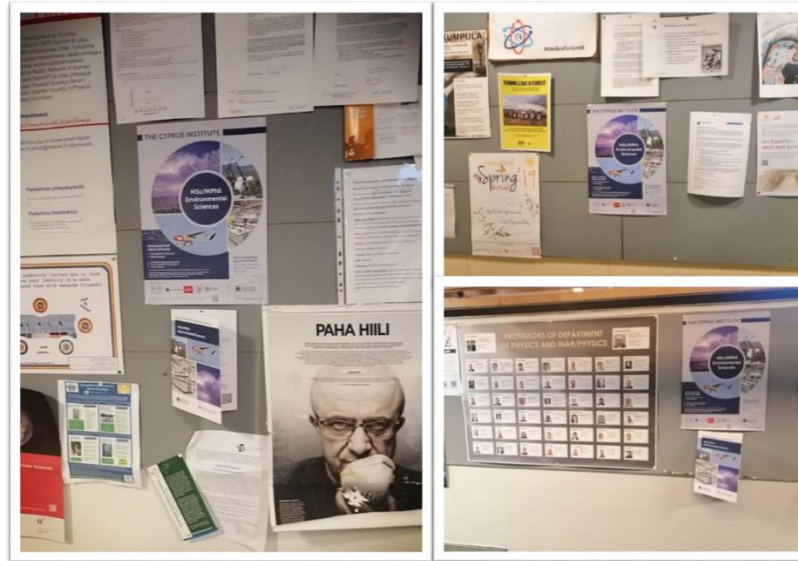
INAR and scientist involved in the EMME CARE project are active in disseminating information related to any activities related to EMME-CARE on different social media platforms.



A detailed description of the EMME-CARE project and its partnership with INAR is published on the university website. <https://researchportal.helsinki.fi/en/projects/eastern-mediterranean-middle-east-climate-and-atmosphere-research>



- Promotional material advertising the CYI Environmental Sciences Msc/MPhil program at the University of Helsinki Physics department



CEA

- Prof Philippe Ciais featured in Nature's "How the coronavirus pandemic slashed carbon emissions — in five graphs, 20 May 2020

NEWS · 20 MAY 2020

How the coronavirus pandemic slashed carbon emissions – in five graphs

Near-real-time data on carbon emissions reveal the sectors, countries and events that had the most impact, but it is unclear how long the dip will last.

Jeff Tollefson

MPIC

- Article about EMME CARE featured in MPIC-Newsletter: November 2019: https://www.mpic.de/4512700/newsletter_mplic_2019_4_rz_web_.pdf and distributed to approx. 600 addresses + permanently available on MPIC Website (excerpt snapshot below).

Berichte | Reports

NEUES FORSCHUNGSZENTRUM IN ZYPERN A NEW RESEARCH CENTER IN CYPRUS



kulturelle oder religiöse Unterschiede haben, dazu bringt, zusammenzuarbeiten.“

Das Projekt in Höhe von knapp 30 Millionen Euro wird aus Mitteln des Forschungs- und Innovationsprogramms „Horizont 2020“ der Europäischen Union, der zyprischen Regierung und aus eigenen Mitteln finanziert. (NM/SB)

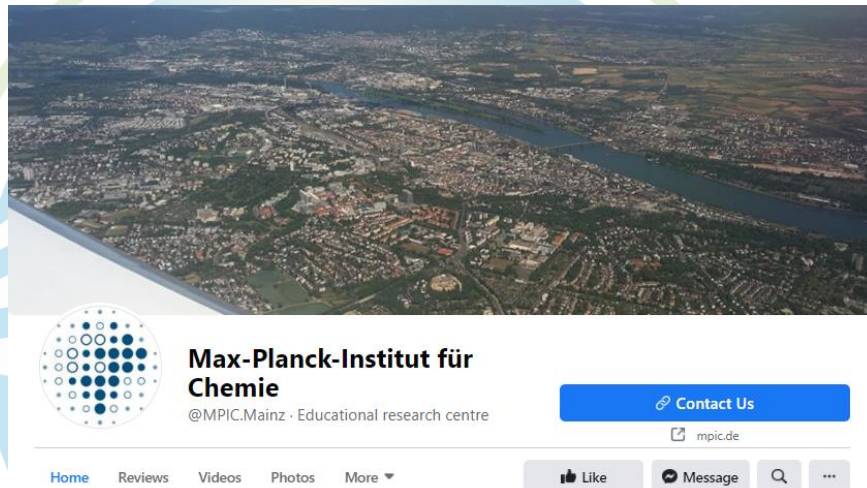
The Eastern Mediterranean Middle East - Climate and Atmosphere Research Center in Cyprus is now open for business - and the MPIC is on board.

Sand storms, high levels of air pollution, extremely hot and dry conditions: This is what the around 400 million people who live in the Eastern Mediterranean and Middle East are facing on a daily basis. A difficult climate and extreme weather events, which are likely to occur ever more frequently over the coming decade, will also have huge consequences for the health and economies in the region.

Das Eastern Mediterranean Middle East - Climate and Atmosphere Research Center in Zypern wurde vor Kurzem offiziell eröffnet. Das MPIC beteiligt sich am Großprojekt.

Die neue Forschungseinrichtung, die am 8. Oktober offiziell eröffnet wurde, ist an das seit 2007 existierende Cyprus Institute in Nikosia angegliedert. Im Rahmen des Projekts soll die bestehende Abteilung Atmosphäre und Klima des Cyprus Institu-

- Permanent link to EMME CARE on the MPIC Facebook with approx. 900 followers (<https://www.facebook.com/MPIC.Mainz/>)



- MPIC shared a replay of EMME-CARE Coordinator Prof. Jean Sciare's webinar on the airborne transmission of SARS-COV-2 to about 400 addresses on 2 June 2020
- Press release 19 March 2019 "Polluted air shortens the lifespan of Europeans by about two years" *On Prof. Lelieveld's paper Cardiovascular disease burden from ambient air pollution in Europe reassessed using novel hazard ratio functions.* J. Lelieveld, K. Klingmüller, A. Pozzer, U. Pöschl, M. Fnais, A. Daiber und T. Münzel, *European Heart Journal* (2019), 00, 1–7 DOI: 10.1093/eurheartj/ehz135
- Holding a biweekly, virtual departmental meeting of about two-hours via Zoom or similar internet media (internal)

6. Key Performance Indicators

In order to measure the effectiveness and impact of the CoE's planned communication, dissemination and exploitation activities, Key Performance Indicators (KPIs) are set, monitored and reviewed at three

different levels. These, alongside the CoE's approach to risk monitoring and management for WP9 activities are outlined below.

Overarching metrics

In order to measure the effectiveness of PDER and outreach and publication engagement activities the following KPIs list has been compiled for 2020 relevant to Tasks and activities under WP9. These KPIs have been compiled based on have already been outlined in the Grant Agreement (section 2.1.2), and as part of continuous evaluation and progress updates as these are uploaded in the System for Grant Management of the European Commission (SyGMA) and having been consolidated with specific measurable objectives outlined in D9.2. It should be noted that 2019 figures have been added for reference purposes.

Dimension	Key Performance Indicator	2019 (for reference)	2020	Objective 2026
Effectiveness	Scientific publications (per year)	59	64	200
	% scientific publications in TOP-25% impact factor journals of the field (per year)	56% [33]	56% [36]	>75%
	% scientific publications in TOP-10 journals of the field (per year)	47% [28]	47% [30]	>60%
	% scientific publications in TOP-5% impact factor journals of the field (per year)	5% [3]	6% [4]	[8]
	EMME-CARE Citation Index	[-]		
	Plenary/ Invited talks at international conferences	1	5*	15
	International conference presentations and workshops	30	20*	100

Outcome	Number of CoE public events (per year)	10	5*	15
	Estimated number of CoE press coverage (per year)	72	95	325

Efficiency	Number of following in CoE digital platforms (at end of year)	1061	1230	2500
	Estimated number of persons reached through events – including digital (per year)	1080	1800*	4000

Network	Number of joint publications with regional partners	18	20	>40
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	Number of joint publications with Advanced partners	21	30	>50
	Impact factor of joint publications with Advanced Partners	3	3	>4





*event-related KPIs have been adjusted to account for COVID-19 cancellations / postponements.

Campaign-specific metrics

Further, as per the intention already outlined in D9.2 for each communication, marketing or outreach campaign to be launched by the CoE, the Communication & Outreach Office will set SMART objectives to measure its effectiveness and impact in response to the specific audience group targeted, the specific purposes (i.e. communication, dissemination and/or exploitation) and in relation to the CoE's wider goals. These objectives are set before the start of each said campaign to ensure measurable outcomes.




Ongoing digital metrics

Finally, in addition to the above KPIs, that allow us to monitor the performance of the CoE's communication, dissemination and exploitation activities at a high-level, and the objectives outlined above to measure effectiveness at the campaign/activity level, more granular metrics are also being monitored to inform the Outreach & Communications Office's day-to-day work and allow the CoE to make data-informed decisions when it comes to this area of activity, particularly in relation to digital channels, means and tools. These include:

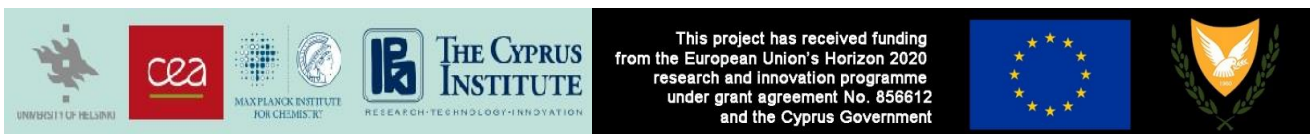
-  monthly monitoring of website statistics for the CoE website;
-  monthly monitoring of social media analytics for CoE accounts;
-  monitoring of the performance metrics (e.g. open rate) of the e-Newsletter; and
-  engagement metrics (when available) for other relevant content that has been circulated through digital means.

Risk Management

Cumulatively, measures for CoE activities as outlined above in section 6 of this Deliverable, allow the CoE to monitor and evaluate success and mitigate any potential risks, relating to three critical success factors for communication, dissemination and exploitation in the context of the CoE, as these have been outlined in the Grant Agreement (section 2.1.2):

-  EMME-CARE's scientific reputation;
-  EMME-CARE's press coverage; and
-  Individuals engaged.

Finally, the CoE takes meticulous care in managing risks in relation to press coverage and scientific reputation by following a quality assurance process before sharing material publicly, ensuing reviews and approval from the stakeholders whose work is quoted as well as by the CoE Director as required by the level and channel of communication.



Annex

CoE Narrative relating to COVID-19 and the Climate Emergency

The coronavirus pandemic has been a human tragedy of global scale, costing incredibly in human lives and livelihoods, while its impact has also threatened the economic model we have established. Yet, that very economic model is in many ways responsible for the rapid spread of the pandemic. We have long been operating on the assumption that natural resources are to be exploited for infinite economic growth, which has proven to be at the expense of the environment on which our wellbeing, and ultimately our survival, rests on. Studies suggest that this model is responsible for COVID-19 and other outbreaks, facilitated through animal-human interactions in disturbed natural habitats, while it has also triggered a number of other disasters that have ravaged our planet in past years.

However, many responses to the pandemic have largely considered COVID-19 in isolation. What we must not miss is that the COVID-19 outbreak is an expression of a systemic crisis our planet is facing that the climate emergency is also part of, caused by human activities in our pursuit of unbalanced economic growth and in perpetuation of the ways of life our economic model has established. Understanding this connection and addressing its root cause is both crucial and urgent, simply because we can no longer afford to ignore it. The threat for our lives and livelihoods is massive, and already evident, through COVID-19 but also climate change.

The only way to truly safeguard our health, prosperity and resilience in future is to find better, more sustainable ways to coexist with our environment, and to address the climate emergency and its underlying causes with the collectiveness we have taken to addressing the pandemic. COVID-19 has tragically altered our lives and is costing us tremendously in both lives and livelihoods. We have not been able to prevent this tragedy. But let us learn from it.

There are 5 key learning that we should take forward as observed by our responses to the pandemic:

1. Global crises, need global solutions: Intergovernmental collaboration and coordinated action is key for successfully addressing emergencies.
Comprehensive and aligned policies across all areas, including, health, the economy, energy, education and the environment, are essential in ensuring that we are collectively pursuing the same goal; a safer, more prosperous future for our planet.
2. We are safer with science: Decision-making at every level has to be guided by scientific evidence.
Government and industry taking decisions based on science has been vital for the virus' containment. This must continue and expand in other areas of priority, such as the environment, along with consistently investing in research.
3. We are stronger together: Addressing global crises requires collective action, responsibility and humanity from all of us.
Challenges of this magnitude require collective behavioural changes to be addressed. For that to happen clear, and accurate communication is key. As we have seen with COVID-19 when governments clearly and earnestly inform their citizens of how critical the situation is most of us embrace necessary measures. Media also has a major role to play to keep the public informed, and tackle misinformation.
4. We can redefine what's possible: What seemed impossible to implement before, now feels feasible, if only we are willing try.
Measures that might have seemed impossible to take prior to the COVID-19 pandemic, became reality for many of us. And whilst the severity and circumstances under these measures were taken was painful, it also showed us that change for the collective good is possible. An example

of this is the wide adoption of remote working. Finding ways to sustainably implement change (on mobility, energy, the economy etc.) that previously seemed impossible is integral for addressing the climate emergency.

5. We can't afford to wait: When it comes to addressing global crises, time is of the essence. The Coronavirus tragedy has shown us that the longer we delay taking decisive action to address a crisis, the wider its repercussions. And whilst most countries have taken actions to contain the pandemic, the coronavirus also triggered a global economic crisis, which in the past has meant de-prioritizing the climate emergency. But as recent events have shown us, we can't afford to wait. We urgently need a green recovery for a just and sustainable climate transition.

We must treat the devastating reality of the Coronavirus as a wake-up call for coordinated climate action, (also taking into account other dimensions of violation of the planetary boundaries) otherwise, only in retrospect will we really appreciate what we risked and what we lost by not acting early enough. And as we have painfully discovered with every passing day of the pandemic, by that point, it would be too late.

Notice of Events postponement on the EMME-CARE website due to COVID-19



Indicative Photographs of CoE Conferences, Workshop and Trainings



ACTRIS IMP meeting, Larnaca,



AirCore sampling training in LSCE, France



RNSA workshop on pollen recognition and counting



The ACTRIS Community Meeting cohort, Larnaca

CoE Brochures & Leaflets

CARE-C Brochure

ABOUT THE CENTER

The Climate and Atmosphere Research Center (CARE-C) is a regional Center of Excellence for environmental and climate change research.

It focuses on creating sustainable solutions to address relevant societal challenges in Cyprus and the wider Eastern Mediterranean and Middle East region (EMME). The Center works in collaboration with leading international academic institutions, and takes advantage of cutting-edge local environmental monitoring facilities.

CARE-C was established in January 2020 through funding secured from the European Union's "Horizon 2020" research and innovation programme (under grant agreement No. 856012) and the Cyprus Government, within the framework of the EMME-CARE project (Eastern Mediterranean and Middle East - Climate and Atmosphere Research Center).

CARE-C's activities focus on three key areas:

- Science and Research on climate change and air pollution over the EMME region.
- Innovation and Entrepreneurship focusing on identifying promising commercial research applications.
- Education and Training including postgraduate degree courses on meteorology and atmospheric sciences, and training on climate change, weather forecasting and atmospheric instrumentation.

CLIMATE AND ATMOSPHERE RESEARCH CENTER

CARE-C

MAJOR PARTNERS & NETWORKS

Advanced European Partners

- Max Planck Institute for Chemistry, Germany
- French Alternative Energies and Atomic Energy Commission, France
- University of Helsinki, Finland

Networks

- Aerosols, Clouds, Trace gases Research Infrastructure (ACTRIS)
- Aerosol Robotic Network (AERONET)
- Global Atmosphere Watch (GAW) of the World Meteorological Organization (WMO)
- Middle East North Africa Coordinated Regional Climate Downscaling Experiment (MENACORDEX)

Regional Partners

- American University of Beirut, Lebanon
- Egypt Japan University Of Science & Technology, Egypt
- Kuwait Institute for Science and Research (KISR), Kuwait
- National and Kapodistrian University of Athens, Greece

Contact

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska Curie grant agreement. This content does not necessarily reflect the views of the project's management board.

> €45M
COMPETITIVE
GRANTS

73
FACULTY
&
STAFF

> 350
JOURNAL
PUBLICATIONS

7
INFRA-
STRUCTURES
&
LABS

31
FUNDED
PROJECTS

CARE-C

PEOPLE

Management Board

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Institute for Chemistry

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Laboratoire des Sciences du Climat et
de l'Environnement

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Associate Professor

Panos Hadjilovoulos
Associate Professor

Theodoros Christoukias
Assistant Professor

Adjunct

Andreas Schmidt-Ott
Professor

Jonathan Williams
Professor

Mihaila Vekicic
Professor

Nicos Mihalopoulos
Professor

Silvia Michaelidou
Professor

Charalambos
Associate Professor

Regional focus, global impact

The EMME region has been identified as a global climate change "hotspot", and is already facing adverse effects, including heat waves and droughts, which are only due to intensify in the coming decades. CARE-C has set out to address these challenges through a combination of research, innovation and education activities, leveraging the strategic geo-political location of Cyprus as a gateway between Europe and the Middle East. The Center is acting as a knowledge hub for environmental and climate change research, fostering innovative and sustainable solutions for the region and the planet.

Accordingly, CARE-C is establishing a Regional Professorship Program with a view of developing a Mediterranean and Middle Eastern science and policy strategy on climate change and has already engaged with partners including from Greece, Lebanon, Jordan, Egypt, Kuwait and U.A.E. CARE-C has strong collaborations with Cyprus Government Departments, and an active role in the scientific component of the Cyprus Government's initiative for coordinating climate action in the East Mediterranean and Middle East region. Further, CARE-C collaborates with leading international institutions such as its Advanced Partners, and is part of many international networks.

Research Agendas Highlights

Environmental Predictions, dedicated to the study of the role of anthropogenic emissions in biogeochemical cycles, air quality and climate change with a focus on the EMME region.

Impact and Policy, dedicated to pursuing multi- and cross-disciplinary research on societal challenges needing regional and local solutions.

Innovation, identifying attractive commercial research applications that contribute to sustainable economic growth and assess the Center's financial longevity.

Research Infrastructures

Atmosphere and Climate Data Center (ADC), aimed at providing well-documented open access to observational data and related process chains and flows gathered by CARE-C.

Cyprus Atmospheric Observatory (CAO), located at a regional background site in Cyprus, it provides high quality, long-term observations of key atmospheric pollutants relevant to air quality and climate change.

Environmental Chemistry Laboratory (ECL), for trace gases and aerosol analyses.

EDUCATION & TRAINING

The Graduate School of the Cyprus Institute offers fully accredited postgraduate degree programs in CARE-C's areas of focus.

Specifically, a **Doctoral Program in Energy, Environment and Atmospheric Sciences** and an **MSc / MPhil in Environmental Sciences**, offering two specialized tracks "Atmospheric Sciences" and "Meteorology".

Students in these programs have the opportunity to study alongside exceptional inter-disciplinary faculty and world-leading research teams, inventing a first class research environment with unique infrastructure.

Further, CARE-C offers **hands-on practice** on atmospheric instrumentation and knowledge transfer and exploitation.

EMME-CARE Brochure

A population of about 400 million is affected by dust storms, dryness, heat extremes and unparalleled air pollution in the "EMME" - Eastern Mediterranean and Middle East region, with severe environmental, health and socio-economic effects. Identified as a global Climate Change "hot spot", EMME is facing adverse impacts ranging from extreme weather events to poor air quality, with increasing intensity in the coming decades.

Temperature projection in 2050 (summer)
REFERENCE PERIOD: 2011-2020

Coupled Model Intercomparison Project (Phase 5)

Temperature increase (Celsius degree)

"EMME-CARE" provides scientific, technological and policy solutions through the establishment of a world-class Research and Innovation Centre of Excellence, focusing on environmental challenges. To address these, the existing Atmosphere and Climate Division of the Cyprus Institute will be upgraded, its partnerships with world-renowned institutes will be strengthened, and its status and contribution in regional/global networks of the field will be enhanced.

With competitive Horizon 2020 funding, as well as national and own resources, EMME-CARE will implement a combination of Research, Education and Innovation activities, which will involve laboratory studies, instrument development, continuous comprehensive atmospheric observations, field experiments and computer modeling of the regional climate and chemical composition of the atmosphere. The programme focuses on the atmospheric environment (greenhouse gases, the water cycle, extreme weather, atmospheric dust and air pollution) and will address climate change and air pollution impacts.

EMME-CARE fully utilizes the strategically enabling geopolitical location of Cyprus to create and foster a gateway between Europe and the Middle East. By building on a critical mass of top scientists and engineers, promoting innovation via regular staff exchanges, networking regionally (Middle East) and globally, transferring knowledge and technology, and by supporting entrepreneurship and spinoffs, EMME-CARE will address challenges by furthering scientific leadership and excellence.

emme-care.cyi.ac.cy

EMME-CARE
EASTERN MEDITERRANEAN
MIDDLE EAST - CLIMATE &
ATMOSPHERE RESEARCH CENTRE

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THE CYPRUS INSTITUTE
RESEARCH AND INNOVATION CENTRE OF EXCELLENCE

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska Curie Grant and the Cyprus Government.

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Max Planck Institute for Chemistry
MPIC (Germany)
Prof. Jos LELJEVELD
Climate Change prediction
& reactive gases

Commissariat à l'Energie Atomique
et aux Energies Alternatives
CEA (France)
Prof. Philippe CIAIS
Greenhouse Gases monitoring
& modeling

University of Helsinki, UHEL
(Finland)
Prof. Markku KULMALA
EU Research Infrastructure & aerosols

INTERNATIONAL NETWORKS

- GAW** World Meteorological Organization - Global Atmospheric Watch
- Aerosol Future Network** NASA
- emep** European Monitoring and Evaluation Programme
- Jointed, Climate and Toxic gases Research Infrastructure** ACTRIS
- ICOS** Integrated Carbon Observation System
- Research for Global Sustainability** futureearth
- MedEC** Mediterranean Expertise on Climate and Environmental Change
- Earth Networks** Earth Observing System
- MENACORDEX** Middle East North Africa Coordinated Regional Climate Modelling Experiment

TOPICS

- Science & Research**
- Air quality monitoring & management (indoor/outdoor)
 - Promotion/coordination of a regional atmospheric network (pollution, climate)
 - High-resolution Regional climate projections (2050, 2100)
 - Climate Change governance and impacts (health, economy, society)
- Innovation**
- Early warning systems for dust storm and extreme weather events
 - New cost-effective (portable) atmospheric sensors
 - Unmanned Aerial Vehicles (drones) in meteorology and air quality
 - Regional (city-scale) Carbon (emission) footprint
 - Regional Air Quality forecasting
- Education & Training**
- Accredited Master & Doctoral programs in Meteorology and atmospheric sciences
 - Training (WMO sponsored) sessions on climate change, weather forecasting
 - Hands-on practice on atmospheric instrumentation
 - Knowledge exploitation and transfer



GOALS

Creation of a new **Center of Excellence**
CARE-C Climate and Atmosphere REsearch Centre

+70 staff

+30 Million €

7 DURATION years

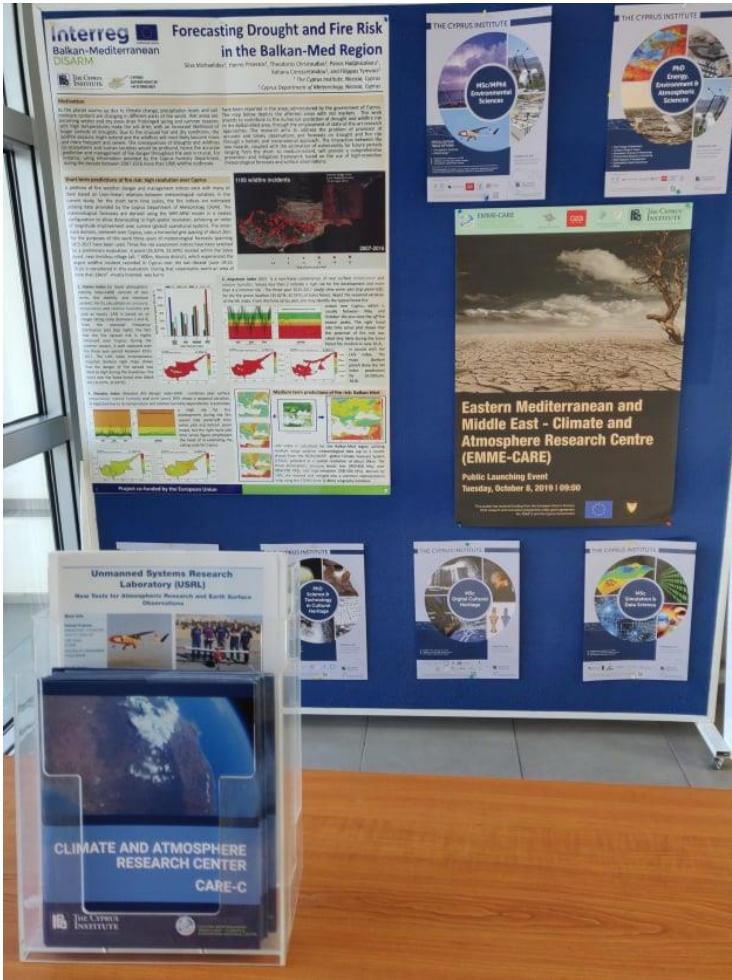
32 Total Year budget 1.3 M

100 Total Year budget 6M €

Today
Atmosphere & Climate Division (EMME-ACD)

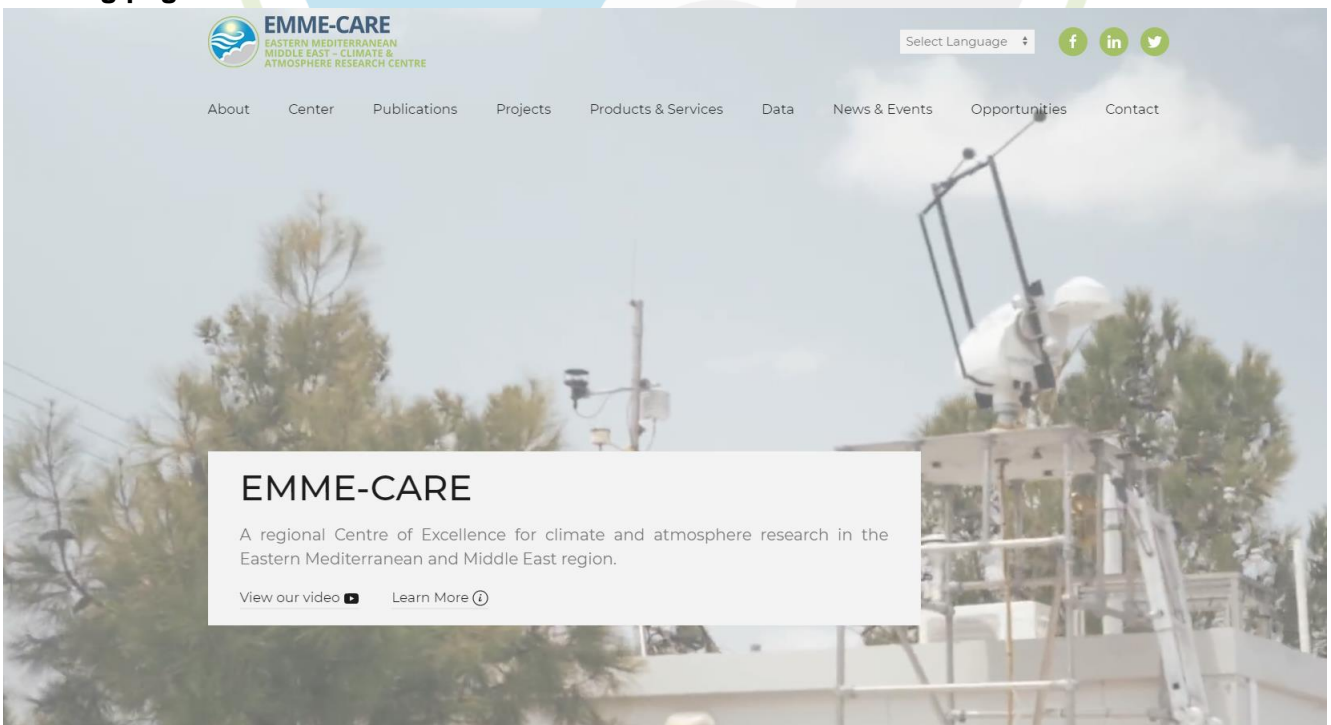
Tomorrow
CARE-C
Atmosphere & Climate Division

Displays of CoE Brochures and Leaflets at Cyl Campus in Athalassa



Screenshots of the upgraded CoE website

Landing page



Projects page



Select Language ▾



About Center Publications **Projects** Products & Services Data News & Events Opportunities Contact

Projects

All 2020 2019 2018

CoCO2: Prototype system for a Copernicus CO2 service

To support EU countries in assessing their progress for reaching their targets agreed in the Paris Agreement, the European Commission has clearly stated that a way to monitor anthropogenic CO2 emissions is needed. Such a capacity would deliver consistent and reliable information to support policy- and decision-making processes. To maintain Europe's independence in this domain, it is imperative that the EU establishes an observation-based operational anthropogenic CO2 emissions Monitoring and Verification Support (MVS) capacity as part of its Copernicus programme. The CoCO2 Coordination and Support Action is intended as a continuation of the CO2 Human Emissions (CHE) project, led by ECMWF. In the Work Programme, ECMWF is identified as the predefined beneficiary tasked to further develop the prototype system for the foreseen MVS capacity together with partners principally based on the CHE consortium. In addition, ECMWF will continue some of the work initiated in the VERIFY project as well. The main objective of CoCO2 is to perform R&D activities identified as a need in the CHE project and strongly recommended by the European Commission's CO2 monitoring Task Force. The activities shall sustain the development of a European capacity for monitoring anthropogenic CO2 emissions. The activities will address all components of the system, such as atmospheric transport models, re-analysis, data assimilation techniques, bottom-up estimation, in-situ networks and ancillary measurements needed to address the attribution of CO2 emissions. The aim is to have prototype systems at the required spatial scales ready by the end of the project as input for the foreseen Copernicus CO2 service element.

Objectives:

1. Deliver prototype anthropogenic CO2 emission estimation systems at global, regional and local scales;
2. Engage with user communities to co-design a service portfolio that ensures fitness-for-purpose of the prototype systems;

News & Events page



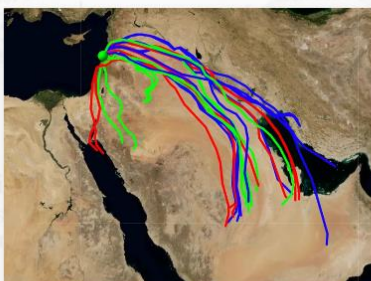
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CARE-C's USRL featured in CyBC TV (in Greek)

2020-07-09

In case you missed it in today's news, you can catch the short report on USRL here:

The Cyprus Institute Career Factsheet (excerpt – “screenshot” of page 1)



ABOUT THE CYPRUS INSTITUTE

The Cyprus Institute (Cyl) (www.cyi.ac.cy) is a non-profit research and education institution with a regional focus and a strong international profile. As a European institution for the Eastern Mediterranean based in Cyprus, the Cyl focuses on advancing prosperity in the region through Science, Technology and Innovation. Its Board of Trustees comprises world-renown scientists and prominent political and entrepreneurial opinion-leaders.

Cyl carries out pioneering research programs involving cutting-edge high throughput technologies, and provides training for the next generations of researchers and scientists through its high quality post-graduate programs. The Institute operates on a novel philosophy that combines interdisciplinary research, education, and innovation, and leverages cutting-edge infrastructures and technology to deliver on par with world-class standards of excellence.

Research at the Institute is carried out in four cross-disciplinary Centers:

Climate and Atmosphere Research Center (CARE-C), a knowledge hub for environmental and climate change research and sustainable solutions, addressing the societal challenges of Cyprus and the Eastern Mediterranean and Middle East region.

Computation-based Science and Technology Research Center (CaSToRC), that pursues research in computational sciences and is developed in close collaboration with the National Center of Super Computing Applications of the University of Illinois and the Jülich Supercomputing Center (JFZ).

Energy, Environment and Water Research Center (EEWRC), focusing on societally relevant issues of Energy & Renewables, Water and Natural Resources, in close collaboration with the Massachusetts Institute of Technology, the Cyprus Research Promotion Foundation, and regional institutions.

Science and Technology in Archaeology Research Center (STARC), an identified regional hub of ESFRI Research Infrastructure in the context of E-RIHS strategy. E-RIHS leads research on heritage interpretation, preservation, documentation, communication and management.



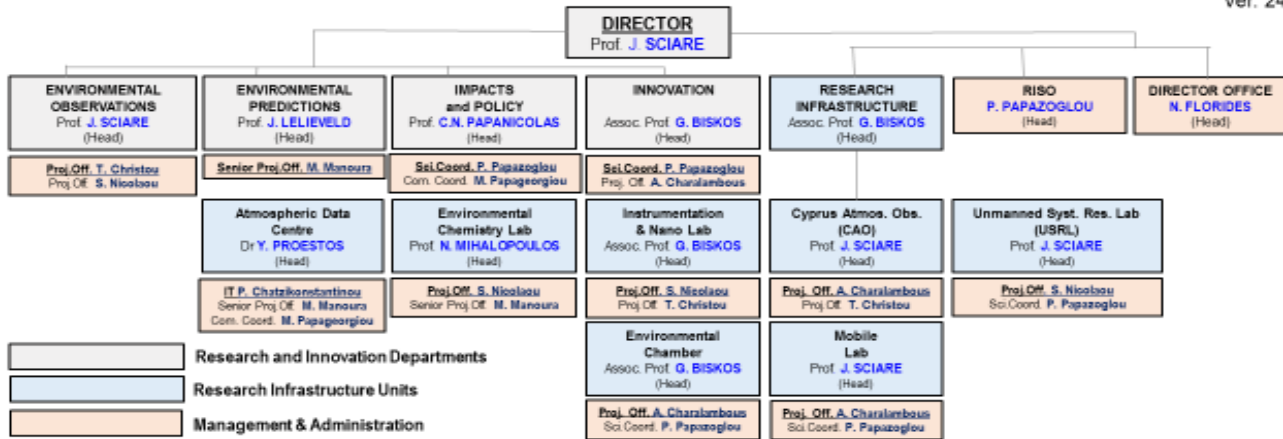
The Cyl Campus in Nicosia, Cyprus.

Updated RISO-Deployment-Taskogram

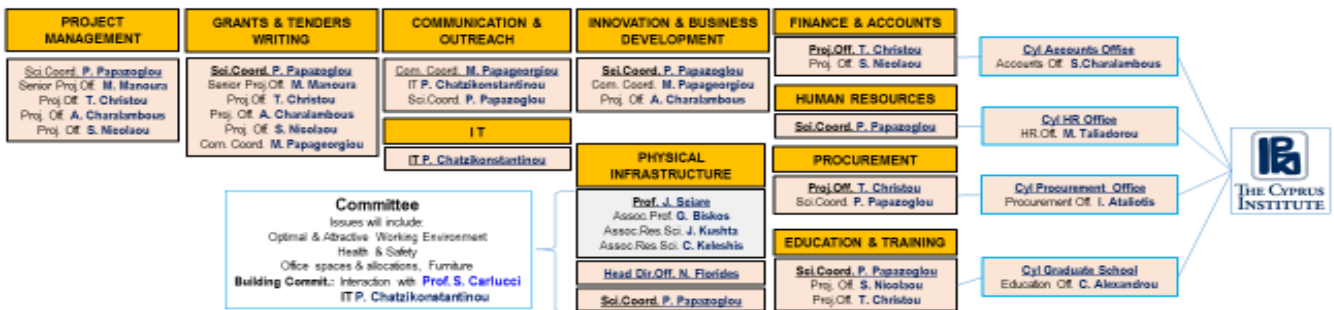
RISO Deployment by CARE-C Dept./Unit

RISO-Deployment-Taskogram

Ver. 24 July 2020



RISO Deployment by Offices/ Functions



Screenshots of CoE social media activities

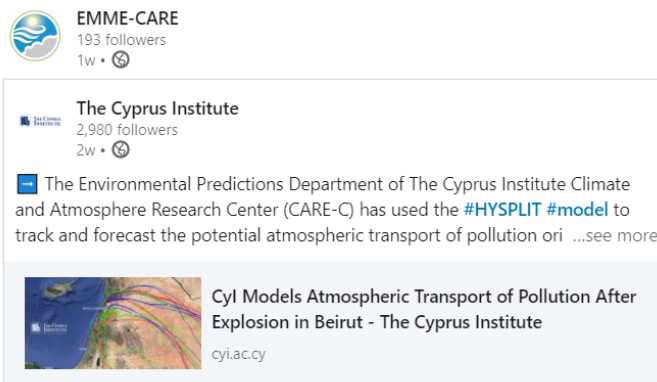
Post on EMME-CARE twitter account



Retweet of EMME-CARE tweet by Copernicus EU account



Post on EMME-CARE LinkedIn account



Post on EMME-CARE Facebook account



Status update on scheduled events of the CoE from March 2020 onwards

Date	Event	Status
2-6 March 2020	ACTRIS IMP Kick-off meeting, Sun Hall, Larnaca	Completed
5 March 2020	Visit of Cyprus Broadcasting Corporation Delegation to Cyl	Completed
10 March 2020	Erasmus Students Climate Change Project / Visit - 35 students aged 16-18	Postponed
16-18 March 2020	Workshop on Remote Sensing (RSCy): Eighth International Conference on Remote Sensing and Geoinformation of Environment	Cancelled
27-29 March 2020	EARMA Annual Conference, Oslo	Postponed (to take place digitally)
3-4 April 2020	Cyl sCYence Fair 2020	Cancelled
29 May 2020	INSHIP National Workshop for Cyprus and for the Energy Task Force of the Climate Change Initiative	Postponed
22 June – mid July 2020	ASKOS Campaign – Cape Verde	Postponed to 2021
30 August - 4 September 2020	European Aerosol Conference in Aachen	Moved online
20 September 2020	Researchers' Night	Postponed to November 2020 – awaiting updates
22-23 September 2020	Water Energy Food Environment Nexus regional conference for the EMME region co-organised with JRC	Postponed to May 2021
15-16 October 2020	2nd International Conference "Climate Change in the Mediterranean and the Middle East: Challenges and Solutions" 2020	Postponed to October 2021