

# EUROPEAN RESEARCH INFRASTRUCTURE FOR ANALYSIS AND EXPERIMENTATION ON ECOSYSTEMS



## Newsletter 2

### ISSUE TWO

AnaEE has moved on substantially over the past month since our last newsletter. As we prepare our call for expression of interest for AnaEE platforms, our Legal, Governance and Funding meeting in Helsinki, and a number of other important milestones, we must also celebrate significant advances.

In Brussels, we met in March and again in May to discuss what exactly it is we should do together - centralised services, centres where we coordinate our activities, human resources and costs. All of this will now allow us to advance quickly on the formulation of a concrete business plan.

In addition, AnaEE was out in full force, represented by several of its partners, at the ICRI 2014 conference in Athens (2-4 April 2014), which brought together

850 participants of whom over 620 were delegates, and dealt with the development of research infrastructures across Europe and around the world.

This was a chance for us to unveil our new video as well as a poster explaining our current state of advancement. It was also a chance to present AnaEE to a wider audience and talk about important global challenges like climate change and food security.

Alongside Russ Lea, a member of our International Scientific Advisory Board and CEO of the US National Ecological Observatory Network (NEON), the ecosystems research component was fully present in Athens and able to make its case to a wide range of stakeholders!

All of this brings us to the topic of our most recent newsletter:

building world class infrastructures - with a guest contribution from our friends at INTERACT. We hope the interviews and editorials within help better understand the important issues around this topic!

Kind regards,

*Abad Chabbi*  
AnaEE Coordinator



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## INTERNATIONAL FOCUS

### BUILDING A WORLD-CLASS INFRASTRUCTURE

*Dr. Abad Chabbi, Coordinator, and Evan O'Connell, Communication/Lobbying Officer*



AnaEE is a unique European infrastructure based on applying an experimental approach to the study of ecosystems. It aims to be a tool and a key asset for the entire scientific community, not only within the European Union and other European countries, but worldwide. Internationally, this means that we cannot hope to tackle all of the issues and all of the geographies on our own - nor should we claim to have all of the answers. We must aim, therefore, to build ties with all relevant partners. In recent months, AnaEE has met with related European infrastructures such as ICOS and LifeWatch; we have also continued building on our already strong cooperation with TERN in Australia and NEON in the USA; and we have also taken full advantage of the opportunity to share experiences with others at the 2nd International Conference on Research Infrastructures (ICRI) in Athens.

As Terry Callaghan's op-ed on the next page points out, there are many areas where AnaEE and other infrastructures like INTERACT are compatible. At the same time, we must not lose sight of what makes us unique. That is why we are so

committed to ensuring that the new ENVRI+ 'Cluster' (a cluster project of ESFRI infrastructures in environmental science) on environmental, life and earth sciences that is currently being negotiated allows all relevant research infrastructures to do together what we can't do separately, while equally better underlining and highlighting what we do better individually.

As well as cooperation, building world class infrastructures means ensuring we achieve and capture the support of all relevant stakeholders. This means first and foremost talking to scientists and building an infrastructure that works for them - and our Scientific User Meeting in October 2013 in Venice, Italy, was essential in defining and understanding the priorities of the scientific community. However, it also means making sure that what we build for scientists also fits in with both European and national priorities. This is where the current Call for Expression of Interest, set to be launched in the coming weeks, is so essential.

Following our 22 May 2014 meeting in Helsinki where we will

discuss key legal, governance and funding issues with ministries and research funding agencies, we will be communicating an open invitation to European countries and governments via National Focal Points (NFPs) to express interest in contributing platforms to AnaEE. This 'Call for Expression of Interest' will allow AnaEE via its NFPs to work hand in hand with individual countries to understand which existing or future sustainably funded platforms fit both with the criteria set out by Preparatory Phase partners and national strategic priorities.

Once initial suggestions are submitted, a carefully outlined procedure will allow the AnaEE Steering Committee to work with ministries to establish a list of recommendations and, ultimately, a binding list of platforms by the end of 2015.

#### NEWS *Turkey*

Our Turkish partner, Istanbul Technical University, organised an information day looking at engaging with the Turkish research community. This information day, which took place on April 18th in Istanbul, brought together a wide range of scientific stakeholders.

Among others, Jacques Roy of the CNRS Ecotron (in charge of AnaEE's Work Package 2, 'Vision') and Nüzhet Dalfes of ITU who leads work on education and training in AnaEE, were on hand to present, answer questions and provide information.

## EUROPEAN FOCUS: RELATED INFRASTRUCTURE

### A WORLD CLASS RESEARCH INFRASTRUCTURE: BRINGING THE SCIENTIFIC COMMUNITY TOGETHER IN REMOTE, COLD REGIONS

*Prof. Terry Callaghan, Professor of Arctic Ecology, Royal Swedish Academy of Sciences, Coordinator of INTERACT*

*Dr. Margareta Johansson, Dept. of Earth and Ecosystem Sciences, Lund University, Coordinator of INTERACT II*



Many cold regions, particularly the Arctic, are undergoing rapid changes. Some changes are sociological, for example globalisation, whereas others are environmental.

Global warming is amplified in the Arctic and is progressing at about twice the rate as the global average.

This is already having many profound effects with implications for Arctic residents and the global community.

While Arctic residents face changes in provisioning ecosystem services, the global community is experiencing the opportunities of more efficient shipping routes and access to valuable non-renewable resources.

However, the biospheric feedbacks to the global system will provide challenges to many millions as a result of increased sea level rise and amplified warming.

Despite the great magnitude and critical importance of the changes in cold regions, these regions are remote, have harsh environments with few inhabitants and our ability to detect, understand and predict changes are severely limited.

Furthermore, detection of change by remote sensing shows a surprising heterogeneity of trends in ecological responses to climate change, but the trends are not understood.

In 2001, a network (SCANNET) of 9 research stations in countries surrounding the North Atlantic Region were awarded an EU grant to build capacity for environmental monitoring and research.

#### NEWS *Finland*

AnaEE Finland received national Roadmap status within INAR (INtegrated Atmospheric and earth system Research Infrastructure). The INAR concept is created for joint developing of the Earth system infrastructures in Finland (ICOS, AnaEE and ACTRIS), for their co-location and joint implementation. INAR RI received 1 M€ from the Academy of Finland, where the AnaEE part was 170 000€ (excluding the in-kind contributions of institutions).

A new proposal was submitted at the end of April. AnaEE Finland submitted a proposal (Research Infrastructure Network for Nordic Atmospheric and Earth System Science, led by ICOS) to the Nordforsk call for networks for Nordic Research Infrastructures, together with ICOS, ACTRIS and SIOS. In the proposal AnaEE partners from Sweden, Norway and Denmark are also participating.

The national node of AnaEE was requested to prepare a document for the RI committee of the Academy of Finland, updating the current vision of AnaEE ESFRI, and the partnership, implementation and budget of the current and planned AnaEE-Finland. Results from this will potentially be received in autumn 2014.

AnaEE organized a national stakeholder meeting on May 9th, 2014. In this meeting, all major stakeholders discussed the Call for Expression of Interest, plans for developing the national AnaEE node and the expected outcomes of the Helsinki LGF-AG meeting.

## EUROPEAN FOCUS: RELATED INFRASTRUCTURE

The great advantages of working together to improve environmental monitoring, opportunities for researchers, and accessibility to data, attracted more station managers: by 2010, 33 research stations located in all 8 Arctic and neighbouring countries joined together to create INTERACT, funded by the EU. Just 3 years later, the number of stations had doubled to about 65.

The stations are multi-disciplinary covering the cryosphere, biosphere, lower atmosphere and human dimensions. Together, the stations host thousands of researchers annually as well as single discipline networks.

INTERACT is building significant capacity for research, monitoring and education. It brings together managers of the research stations in a Station Managers Forum. Here, issues such as improved and standardised monitoring, data accessibility and best practices for operating stations are discussed and decisions implemented. Major output includes reports on facilities and environment at each station, best practices of operating a remote research station and a metadata base of monitoring and research projects.

INTERACT also provides transnational access which is centralised funding for researchers to visit stations outside the countries where they work. This EU funding has been leveraged to gain funding in Canada and the US and for the first time, researchers can apply to INTERACT for travel and subsistence to visit stations in all northern countries including Russia. The funds have been used strategically to focus research on high priority gaps identified by major international organisations and to build international

collaborations. By the end of 2014, about 520 INTERACT-sponsored researchers will have spent around 10, 000 research days at cold region research stations. Many recipients are early career scientists that can leverage the transnational access funds to get national awards. Although EU-funded infrastructures are not eligible for funding for research projects, they are supported for the R & D that underpins more efficient monitoring and data access.

Within INTERACT, new energy-balance equipment has been designed, tested and established at multiple sites in collaboration with ICOS (Integrated Carbon Observing System) while improved methods for recording phenology and networking sensors have been developed. In addition, a GIS system has been developed to combine station management with archiving research and monitoring data. INTERACT also has a strong outreach component and is actively involved with school education and citizen science.

The stations and the network provide an invaluable role in integrating projects and building collaborations.

Of particular importance is the "MMM @ M" concept whereby Monitoring (that identifies environmental change) is integrated with environmental Manipulation (that gives a process-based understanding of change) and Modelling (that up-scales changes and predicts future changes). These integrated activities can then be used to develop knowledge based environmental Management.

INTERACT is increasingly being sought-after as a partner by national and international

projects and programmes and is happy to collaborate and facilitate. We believe that INTERACT could be a vital partner for AnaEE in terms of research on Arctic ecosystem research, especially with the upcoming AnaEE call for expression of interest.

### NEWS *Czech Republic*



Tuesday 29th April saw the full launch of CzechGlobe - one of AnaEE's preparatory phase partners, directed by Prof. RNDr. Ing. Michal V. Marek, DrSc. Its activities are fully focused on the investigation of global changes in fields such as atmosphere and climatology, ecosystem responses research and investigation of the socio-economic impact of global change. The basic philosophy of ecosystems response research is focused mainly on the carbon cycle investigated on different spatial and temporal scales. The combination of methods of metabolomics, plant ecophysiology, sophisticated impact studies and remote sensing process imaging makes it possible to realize deep insights into plant/ecosystems responses to global changes. At present CzechGlobe employs up to 300 researchers and staff and 55 PhD students.

## SPECIAL REPORT

### BUILDING WORLD-CLASS RESEARCH INFRASTRUCTURES

AnaEE is vitally important for understanding and responding to the challenges of climate change, loss of biodiversity, disturbance of global biogeochemical cycles, and land use change. In bringing together a wide range of platforms allowing for a greater development of an experimental approach to these issues, we can help adapt to, and ensure, food security, preserving and improving ecosystems services, and building a 21st century bioeconomy. However, we cannot do this alone - and we must learn and adapt based on the experiences of other infrastructures, as well as the needs of all relevant stakeholders.

One extremely valuable forum, that we hope will continue in

some format in future, is the CoPoRI ("Communication and Policy development for Research Infrastructures in Europe") project. AnaEE has been a member and partner - from the beginning, via the Exchange of Experience group - of this essential project that has organised over the past two years many important exchange of experience and workshop sessions in Brussels and elsewhere in Europe, allowing more advanced research infrastructures to share their experiences with younger projects.

Coupled with this are the very valuable Strategic Working Groups of ESFRI (the European Strategy Forum on Research Infrastructures).

Finally, ICRI 2014 - the 2nd International Conference on Research Infrastructures - was a chance in recent days to meet with people far beyond our own domain and share valuable knowledge, as well as communicating the value of AnaEE to many of our key stakeholders.

We cannot stop there, however. As AnaEE moves forward, we must continue talking to as many varied audiences as possible if we are to truly build an infrastructure that works for the entire community and for Europe and its Member States, as well as the general public.

That's why you, as stakeholders, are so important.

### 2ND INTERNATIONAL CONFERENCE ON RESEARCH INFRASTRUCTURES: ATHENS, 2-4 APRIL 2014

The ICRI conference was a chance for AnaEE to be visible to the entire research and funding community with regards to research infrastructures - including sharing best practices with infrastructures from domains as varied as astronomy and historiography. More information can be found here: [www.icri2014.eu](http://www.icri2014.eu)

AnaEE was represented by Abad Chabbi and Evan O'Connell of INRA, Susanna Siitonen of the University of Helsinki, and Gabriela Pastori of BBSRC (accompanied by Alf Game). AnaEE was present with a stand, a video, a presentation from Abad Chabbi and attendance of relevant sessions, as well as networking throughout the event.

AnaEE shared a booth with EMSO (European Multidisciplinary Seafloor and Water Column Observatory) and EPOS (European Plate Observing System). Apart from printed copies of the brochure, stakeholder handbook and March newsletter, AnaEE also featured a video running in a continuous loop. If you have not yet viewed the AnaEE video, please visit [www.anaee.com](http://www.anaee.com).

All in all, we estimate that more than 200 delegates stopped at the AnaEE stand and talked with one of our representatives, while many more took brochures and leaflets.

In addition, Abad Chabbi gave a keynote presentation, talking about the need for a dedicated experimental ecosystem research infrastructure in Europe. His

presentation was part of the parallel thematic session on food security, chaired by Lidia Brito of UNESCO, with Imma Subirats of the FAO as rapporteur - he discussed adapting science to ensure food security in the face of climate change, and also covered research infrastructures and global cooperation as key tools in facing up to the urgency of these challenges.

The session on food security also saw Russ Lea - Executive Director of NEON and member of the AnaEE International Scientific Advisory Board - deliver an extremely solid presentation on the links between data and experimentation and the need for interoperability in the face of climate change and challenges to food security.

## UPCOMING DEVELOPMENTS

### AnaEE CALL FOR EXPRESSION OF INTEREST

While AnaEE has made considerable progress in terms of better defining what we do together, how and why, we must clearly set out which platforms are now part of our infrastructure and under which conditions.

Thanks to the tireless work of the entire AnaEE consortium and its partners we are now close to defining the criteria that must be met in order for a platform to be part of AnaEE.

This will allow us to launch a call this summer for Expression of Interest - in other words, interest in becoming a platform of the AnaEE infrastructure.

This process will be described as it is developed on our website, and will be communicated through all of our national focal points. It will aim to reach as wide an audience as possible in the scientific community. Please contact us to find out more.

## NEWS *France*

After one year, AnaEE France is happy to announce that its services have seen users multiply by 3.4, personnel trained by 8.5, and publications by 1.4. AnaEE France is now launching a grand crosscutting activity on the harmonisation of methods and measurements - focusing on such issues as semantic interoperability between databases and modelling platforms, as well as access charters. AnaEE France is developing extremely well and there are already many synergies with AnaEE Europe.

## NEWS *UK*

Following on from a workshop held in May 2013 involving stakeholders of the UK agro-ecosystems community, advanced efforts are being made in preparation for a joint pilot between Rothamsted Research and the Centre for Ecology and Hydrology. The project is based around the idea of Sustainable Intensification which would aim to address issues such as integrating agricultural and environmental data.

On 1st May 2014 the Departments for Business Innovation and Skills published a UK Capital Consultation. The consultation states that responses will inform a Science Capital Roadmap and will be published in autumn 2014 as part of a UK Science and Innovation Strategy.

BBSRC is working actively with its scientific community and other Research Councils in order to prepare a timely response. An update on the outcomes of capital and concept studies for concerning agri-ecosystems research facilities will be given.

## UPCOMING EVENTS AND WHAT TO EXPECT FROM AnaEE

### **ANAEE ANNUAL MEETING, ANTWERP, 13-15 OCT 2014**

The 2nd AnaEE annual meeting will be held on 13-15 October 2014 at the University of Antwerp.

### **INTERNATIONAL TERENO-CONFERENCE, BONN, 29 SEP-2 OCT 2014**

Abad Chabbi is invited as keynote speaker at the International TERENO-Conference ([http://www.tereno-conference2014.de/tereno-conference/EN/Home/home\\_node.html](http://www.tereno-conference2014.de/tereno-conference/EN/Home/home_node.html)) in Bonn, from 29 September to 2 October 2014. Dr. Chabbi will be discussing efforts made to establish infrastructures and networks for ecosystem research, focusing on 'Complementary tools for observation and experimentation on the critical zone'.

### **INTERNATIONAL CONFERENCE ON EXPERIMENTATION IN ECOSYSTEM RESEARCH, PARIS, 24-25 SEP 2014**

ExpeER (Experimentation in Ecosystem Research) forms the building blocks of the AnaEE distributed infrastructure. ExpeER will be organising an International Conference on Experimentation in Ecosystem Research in a Changing World, taking place in Paris on 24-25 September 2014 (<https://colloque.inra.fr/expeer-conference>).

### **ANAEE LEGAL, GOVERNANCE AND FUNDING ADVISORY GROUP, HELSINKI, 22 MAY 2014**

All relevant research, environment and agriculture policy and funding bodies are welcome to attend, and you can register by visiting [www.anaee.com](http://www.anaee.com).

### **WORKSHOP: LANDSCAPE OF THE EUROPEAN RESEARCH INFRASTRUCTURES FOR ENVIRONMENTAL SCIENCES, PARIS, 22 MAY 2014**

AnaEE is invited to participate in a Workshop on the Landscape of the European Research Infrastructures for Environmental Sciences in Paris on 22 May 2014.

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## RECENT EVENTS

### ANAEE WP3 WORKSHOP, BRUSSELS, 7-8 MAY 2014

AnaEE's Work Package 3 (Technical Development), led by NIVA's Claus Beier, organised a workshop aimed at finalising the text for AnaEE's upcoming "Call for Expression of Interest" for national platforms. The aim is to launch the call in June, after it has been presented to funding and policy bodies at the upcoming Legal, Governance and Funding Advisory Group meeting in Helsinki on May 22nd.

### ICRI 2014, ATHENS, 2-4 APR 2014

Dr. Abad Chabbi, AnaEE Coordinator, was invited to the 2nd International Conference on Research Infrastructures (ICRI 2014), which took place in Athens, Greece, on 2-4 April 2014 under the auspices of the Greek Presidency of the European Union. Dr. Chabbi spoke on food security and the need for international research infrastructures to respond to this challenge in the face of climate change.

### ANAEE WP2 WORKSHOP, BRUSSELS, 20-21 MAR 2014

20-21 March saw AnaEE consortium members come together at the Maison du Languedoc-Roussillon in Brussels for a workshop on shared and supranational services and platforms. The meeting sought to establish a clear list and definition of priorities in terms of what and how AnaEE would operate on a European level, both in terms of governance and scientifically.

### FACCE-JPI SCIENTIFIC ADVISORY BOARD MEETING, BRUSSELS, 19 MAR 2014

AnaEE coordinator Dr. Abad Chabbi met with the Scientific Advisory Board of the Joint Research Programming Initiative on Agriculture, Food Security and Climate Change (FACCE-JPI) - an initiative bringing together 21 countries committed to building an integrated European Research Area addressing the interconnected challenges of sustainable agriculture, food security and impacts of climate change. Dr. Chabbi presented possible areas of cooperation, including a pilot study involving both AnaEE and FACCE, that fits in with the goals of the Strategic Research Agenda of the Joint Programming Initiative.

FOR MORE  
INFORMATION  
ON AnaEE

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## NEWS *Denmark*

In Denmark, regular meetings between four universities (Copenhagen University, Aarhus University, Roskilde University Center and DTU) have taken place to discuss potential future Danish AnaEE platforms.

The next physical meeting is planned to take place on 2 July following the announcement of the AnaEE call for expression of interest.

In June, the Danish NUFI board will meet again and decide which infrastructures on the current Danish roadmap will receive funding in 2014.

On the following meeting in September, the NUFI board will initiate the process of revising the Danish roadmap thus opening for new infrastructures to receive roadmap status.

## NEWS *Belgium*

The Walloon government has launched a call for participation to all ESFRI projects by consortia from Wallonia. The first step of the call (Expression of Interest) has now been closed, full proposals have to be submitted by July 15th.

Selected proposals will be granted funding in 2014. The process will thus largely overlap in time with the AnaEE Call for expression of interest to be launched in June 2014.

*This newsletter was drafted by Evan O'Connell and Abad Chabbi (INRA).*

*External content was provided by Terry Callaghan and Margareta Johansson (INTERACT).*



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