

EUROPEAN RESEARCH INFRASTRUCTURE FOR ANALYSIS AND EXPERIMENTATION ON ECOSYSTEMS



Newsletter 13

ISSUE THIRTEEN

Dear Reader,

The AnaEE Preparatory Phase has now been extended until the end of October, which allows us to better prepare the next phase, where we will build up the structures for the future operational phase.

The last months have been especially dynamic, with a great many projects being brought to completion in parallel, from the funding rules to the pre-operational governance, the rules for selecting the supranational entities or the business plan.

The AnaEE International Conference took place at the beginning of March 2016, and brought together experts from all around the world. Two intense days of presentations and debate enabled fruitful discussions on the role environmental research infrastructures, and AnaEE in particular, can play in addressing the grand challenges of climate change, land use change, biodiversity and food security. In this regard nothing

great can be achieved without international cooperation. To this end a strategic cross-continental project involving Australia, USA, South Africa, Indo-nesia, China, Japan, South Korea and France is under discussion. Through its active role, AnaEE is well positioned to play an important global leadership alongside with TERN, NEON, CERN and other big research infrastructure.

The last meeting of the Legal, Governance and Funding Assembly General took place in Helsinki on April 19th to inform stakeholders of the progress made in the last months and of the way forward. The countries engaged in the AnaEE Preparatory Phase must now declare their engagement in AnaEE and their willingness to continue in the next phase.

To this intent, we are in discussion with all national stakeholders to encourage them to sign the Letter of Intent that we developed for this

purpose at the end of last year. Several countries have already signed, making it possible to start directly with the pre-operational phase and its structures.

More information is as usual available in the newsletter and on the website; you can also follow us on LinkedIn or Facebook.

Best wishes,

Abad Chabbi

AnaEE Coordinator



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INTERVIEW

The way forward – Challenges and opportunities for AnaEE – Interview with Dr. Tim Clancy



Dr. Tim Clancy is Director of the Australian Terrestrial Ecosystem Research Network (TERN). The links between TERN and AnaEE have been quite strong for several years now, culminating in an informal Memorandum of Understanding between the two entities. Dr. Clancy is also a member of the AnaEE International Scientific Advisory Board. In this interview, he answers our questions on what the next challenges for AnaEE are, and how we can best position ourselves in a global context.

What, in your view, is the added value of a transnational ecosystem research infrastructure with a focus on experimentation?

There are a number of significant challenges we are all facing that require the application of high quality ecosystem science such as the loss of biodiversity; the impact of pest, weeds and pathogens; understanding drivers of system productivity; diagnosing the impact and best pathways for adaptation to climate change; and improving the sustainability of our use of natural resources.

The complexity of both the issues we are confronting and that of the ecosystems themselves mean that we can not just take a passive observation approach. We need to undertake large (in both space and time) scale experiments to deliver the science needed.

This is not to say there isn't an important role for broad based system monitoring; rather that

without a specific question driven, experimental approach the knowledge won't be accessible in the time frames needed or at the appropriate spatial scale to drive solutions.

AnaEE will soon be starting its construction proper, moving on to a new phase after more than three years of preparation. As director of an established infrastructure, what advice would you give to AnaEE for the years to come? What specific challenges does it need to watch out for?

That's a big question and I think some of the challenges AnaEE will face will be specific to the European setting. If I was going to nominate three major challenges I think they would be, firstly, engendering broad scale involvement from both the research community and the downstream users of the science this community but in a way that maintained the core integrity of the overarching research program. Getting the balance right between genuine researcher and stakeholder involvement

but not trying to be all things to all people has been a major challenge for us and I suspect has another layer of complexity in the AnaEE situation.

Another challenge is maintaining the underlying data systems in the context of a rapidly evolving e-infrastructure environment. That is, balancing the need to be at the cutting edge in data and informatics with the realities of keeping underlying operations going with multiple partners coming from different starting positions.

A third major challenge is developing the skills needed in what is a predominately researcher driven community to deliver on a major research infrastructure program, especially in the situation where the delivery of the research infrastructure is often only a part of partner researchers already busy work programs. One thing which I think worked well in the TERN case was putting on dedicated facility managers/ coordinators who still received guidance from

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the relevant research experts but who could focus on the infrastructure component. Resourcing levels meant that this was an underdone area in our case, but the hybrid model of researchers and infrastructure managers working closely together was beneficial I think.

AnaEE has always had a strong relationship with its international counterparts, and especially TERN, with whom it has signed a MoU. How do you see the relationship between AnaEE and TERN evolving in the future? And what would you like it to focus on?

As TERN has interacted with AnaEE and other global players in the terrestrial ecosystem space it has been clear that we have incredible amount in common with what we are trying to achieve. This is largely because most of the issues we are dealing with are clearly global issues. This overlap in objectives to a large extent overrides the significant differences in funding and delivery models; operational timelines and history; and the different geographies, social and economic context the projects are embedded in. Therefore, I can only see the

relationship strengthening over time.

As far as what to focus on, I think fundamentally the most important starting point is just continuing the conversations amongst ourselves and like organisations. We need to be continually looking out what are our areas of common interests and to examine our relative strengths and weakness to look for opportunities for ongoing collaborations. There are some straight forward issues where there is no major collaboration cost, such as sharing information on instrumentation, methods and protocols for measurement and data approaches. Over time the more we can work towards global level experiments, I think, the better, but such a move should be anchored in a shared vision rather cross site/country/region projects just for the sake of doing them. A key issue going forward is that funding models do not really support genuine global studies in the terrestrial space compared to say marine sciences or climatology.

TERN has recently put a lot of focus on its relationship with industry, an avenue of development which AnaEE

considers essential but on which it has only taken a few steps so far. What have the main steps and activities been for TERN? What lessons are to be learned for AnaEE from TERN's experience?

It should be said our first steps are only baby-steps at this stage and responsive to a clear direction from our funding agencies. That said, I think developing strong linkages to industry can have major benefits if handled right. As part of this years work program we developed a specific industry engagement plan. Similar to international partnerships the starting point should be around areas where the science vision and the industry vision overlaps.

I think that researchers often underestimate how much overlap there is, and at the same time over estimate the direct impact of their research outputs. Industry is interested in sustainability, reducing inputs relative to outputs in the context of natural resource use as well as avoiding or mitigating the impacts that climate change might have on their sector. It would be presumptive to say there was a lot AnaEE could learn from us given how

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early we are in developing a fully fledged industry engagement plan but this is a good example of where ongoing sharing of our joint experiences will be useful in the future.

You have recently hosted a fruitful three days high-level round table with leaders of ecosystem observing networks from around the world, including AnaEE. What was the motivation behind the meeting? And how could AnaEE help strengthen existing links and create an ecosystem observatory at the global scale?

The high-level round table had a number of motivations. For the TERN publication “Biodiversity and Environmental Change” I was asked to briefly synthesise the past and future trends in the international long term research (ILTER) community, Australia being one of the early participants in this initiative after its origins in US LTER. Regarding the future, it seemed to me that three major trends have been emerging: an increased focus on interdisciplinary research, greater integration of research site networks with the observation and monitoring networks and the growing acknowledgement of the need to consider human’s as integral components of ecosystems. All these trends point to the need for effective

meta-networking, linking existing networks and organisations together across disciplines, geographies and methodological approaches.

Parallel to this we had been have the discussions with NEON, AnaEE, CERN, China, SAEON (South Africa) and many other key players re developing MoUs with, as mentioned, numerous areas of common interest and opportunities for synergy being apparent. We were also being requested by our our core funding agency to demonstrate our global linkages. I should also say my thinking was influenced by an excellent key note address Dave Schimel from NASA (and previously NEON’s chief scientist) gave at our national symposium in 2013. All together it seemed the time was ripe to have a broader discussion on the concept of a terrestrial ecosystem observatory, but under substantial caveats. Firstly, we wanted to look at ways of strengthening both in country and existing collaborative networks, not in any way eroding or replacing them. Secondly, starting from a very broad scope of taking scientific/research driven, an infrastructure, and a data and informatics approach to observing, diagnosing and ameliorating undesirable ecosystem change. This scope was intentionally broad in the first

instance the aim of the meeting was to determine how to best to constrain/focus the scope and/or develop specific high value themes for collaboration. Also, from a TERN perspective there was immense value in just hearing from different players like AnaEE as a guide to our own internal planning.

With the concept moving forward, AnaEE is well placed to play a role at a continental level through your role in servicing such a broad range of European countries within the project and also through your interactions with other relevant Horizon 2020 projects. Also, AnaEE is well positioned to play an important global leadership role through your interactions with other national and regional networks.

Dr. Clancy, thank you for your time.

REPORTS

AnaEE International Conference - From Experimentation to Global Prediction - Synthesis Report

The AnaEE International Conference took place on March 2nd and 3rd, 2016, at the headquarters of the CNRS (French Centre for Scientific Research) in Paris. It marked the end of the AnaEE Preparatory Phase. Its aim was to take stock of the challenges facing environmental research infrastructures.

Bringing together experts from all around the world (Europe, USA, Australia...), the two intense days of presentations and debate enabled fruitful discussions on the role of environmental research infrastructures, in addressing the grand challenges of climate change, land use change, biodiversity and food security.

The first session highlighted the policy context for research infrastructures at the national and European levels, where policy roadmaps are being put into place. The European Strategy Forum on Research Infrastructures in particular has put forward a new roadmap for developing these tools at EU level, and AnaEE has its place on it.

Beyond the policy framework, the various presentations also

detailed the different challenges for such infrastructures, from the access to data to the integration of models, the complexities of often interdisciplinary research, the need for strong networks between stakeholders and active communication channels, or the governance challenges such as leadership, credibility, and efficiency.

The conference was a very welcome platform for gathering information, exchanging experiences, and debating on unresolved issues. The participants were from very various fields of expertise, which considerably added to the liveness of the discussions. AnaEE hopes to be able to organize such events again once the infrastructure is fully operational.

NEWS *AnaEE*

The final Legal, Governance and Funding Advisory Group meeting of the AnaEE preparatory phase was held in Helsinki on 19th April 2016.

The meeting discussed and sought recommendations about the interim governance and the bodies involved, as well as the current stage of the proposed funding and governance framework for the implementation and operation of AnaEE-ERIC.

Ministerial and funding agencies participation was quite active, with representants in particular from the countries who have already announced their engagement in the next phase of the AnaEE construction through the signature of a Letter of Intent: Belgium, Czech Republic, Denmark and France. An LoI has also been signed by Israel.

Since four signatories constitute a quorum of sorts, the AnaEE pre-operational phase will be able to start as soon as the preparatory phase ends.

NEWS *International*

Please note the forthcoming book "Terrestrial Ecosystem Research Infrastructures: Challenges and Opportunities" editors: Abad Chabbi, Henry W. Loescher CRC Taylor and Francis Group.

<https://www.crcpress.com/Terrestrial-Ecosystem-Research-Infrastructures-Challenges-and-Opportunities/Chabbi/9781498751315>

RECENT EVENTS AND UPCOMING DEVELOPMENTS

– HIGH LEVEL ROUND TABLE "GLOBAL ECOSYSTEM OBSERVATORY", AUSTRALIA, 7-9 MARCH 2016

AnaEE Coordinator Abad Chabbi attended a high level meeting on March 7th, 2016, hosted by TERN and the University of Queensland. This high level round table aimed to prepare the foundations of a future "Global ecosystem observatory".

The object of the meeting was to discuss collaboration at a global scale in the area of ecosystem observation based on the following concepts:

- Building on existing collaborative frameworks such as Fluxnet, ILTER, GEOSS etc as well as existing strong bilateral links (e.g AnaEE to Australia);
- Taking an observing system "infrastructure" view point that recognises that the impetus for a global approach to tracking ecosystem change is warranted;
- Learning from areas where such collaborations work well;
- Working with some existing science and policy drivers such as IPBES, FAO, CBD.

A brief article on the meeting has been written in the current TERN newsletter. This can be viewed at: <http://www.tern.org.au/Towards-a-global-ecosystem-observatory-bgp3955.html> .

– EGU GENERAL ASSEMBLY, VIENNA, 17-22 APRIL 2016

The EGU (European Geosciences Union) 2016 General Assembly took place in Vienna, Austria from 17–22 April. AnaEE Coordinator Abad Chabbi, Convener and Co-Conveners (Fabrizio D'Aprile, Henry Loescher, Werner Kutsch, Pete Smith, and Margaret Torn) organised a session entitled: « Long-term observations and experiments on climate change impact on ecosystem health and services ». The session was held on April 18th. More information at: <http://meetingorganizer.copernicus.org/EGU2016/session/21863>

NEWS *UK*

A meeting took place on 21st March 2016 to follow up on the progress of AnaEE between funders and institutes who put forward platforms as part of the UK joint response to the AnaEE Call for Platforms in 2015. The meeting was useful in providing an update on AnaEE at the European level as well as identifying actions at the national UK level.

As part of these actions, a workshop will be held later around summer 2016 with relevant sectors of the UK agri-ecosystems scientific community to further explore the UK capability in agri-ecosystems science taking the developments of AnaEE into consideration.

RECENT EVENTS AND UPCOMING DEVELOPMENTS

– ASSOCIATED CONFERENCE « PHILANTHROPY AND SOCIAL INVESTMENTS. FORSTERING RESEARCH AND INNOVATION. NEW FORMS OF FINANCING AND PARTNERSHIPS », AMSTERDAM, 21-22 APRIL 2016

The AnaEE coordinator Abad Chabbi was invited to participate in a high level meeting under the framework of The Netherlands EU 2016 Presidency Associated Conference “Philanthropy and Social Investments. Fostering Research and Innovation. New forms of financing and partnerships”. The conference marked the beginning of a joint effort of the EU, business, and foundations to mobilize private investments in research and innovation in Europe including research infrastructure in health and environment.

The conference aimed to bring different actors together to discuss new financing forms and possibilities for partnerships. One of the important questions that was addressed was how to close the collaboration triangle between the public sector, the commercial sector and the foundations. One of the outcomes of this conference will be a long list of possible (new) financial forms that may foster research and innovation in the European Union.

Fruitful panel discussions around the added value of partnerships, the potential added value of collaborative entrepreneurship, public/private and private/private partnerships have been led. Key questions such as « who are the key-enablers, the incubators that make these partnerships possible? » or « How to close the collaboration triangle between the public sector, the commercial sector and foundations? » have been extensively addressed.

– ENVRI PLUS WEEK, ZANDVOORT, NETHERLANDS, 9-13 MAY 2016

Under the Frame work of the ENVRIPUS week, the AnaEE coordinator Abad Chabbi is organising a high level international workshop entitled "Science across observatory networks' workshop. More information can be found: <https://envriplus.manageprojects.com/s/notebook/r1EGbt29QDUa/page/400>

FOR MORE
INFORMATION
ON AnaEE

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