CRL Coordination meeting 2022 – detailed minutes

**Kaviris** 00:00

-Please welcome a member of the CRL from the beginning, Professor Nicholas Voulgaris, Vice Director of Research and lifelong learning for the National Kapodistrian University of Athens.

**Voulgaris** 00:13

-Hello very nice to be here in person after the last two years with the COVID-19 situation. The things were a little bit far away from the nature of the CRL and also, we were a little away from the actions and the works. This situation will hopefully end the next year and I also hope that we will return and be more active and promote the CRL actions. I also hope that the CRL will participate in various projects, and I also feel that we should try and keep the CRL at the center of the NFO activities. It is very nice to see, most of you, since we have been working together for a lot of years. See that everyone's still active. I also want to welcome some new faces, which is very good because we need new people. Of course, that doesn't mean we should stop working, but we do need new colleagues. Thank you all for being here.

**Kaviris** 03:30

-Thank you Nicholas for the welcome. The next speaker will be Professor Assimina Antonarakou, vice president of the Department of Geology and Geoenvironment at the University of Athens on behalf of the president, Professor Lekkas, who was not able to attend.

**Antonarakou** 04:20

-I would like to welcome you all to the CRL coordination meeting of 2022. Finally, after too long we are seeing each other again. It is always a pleasure to see the CRL families and of course all the people who are watching this meeting remotely. It is an honor to welcome you here at the National and Kapodistrian University of Athens in the Department of Geology and Geoenvironment.

CRL is an organization that has been studying the Western Gulf of Corinth for more than 20 years. During these years, many studies and scientific fields have been completed to make us better understand the complexity of the kinematics of the Gulf of Corinth. The question of the geophysical processes that are in the area was basically under consideration after the Aigion 1995 earthquake. Due to your effort, this project is still going on. A numerical of scientific missions have been conducted. One of the biggest accomplishments of the CRL was the creation of the CRL School, starting at 2016, that attracts students and lectures from all over the world. The importance of the existence of projects like these, is significant as it enables the exchange of ideas between people with different backgrounds and create bridges of communication among students and scientists which are the future of Geosciences. I would like to thank you all for your commitment and for your efforts in this project because without you it would not be going on today.

On behalf of the President of the department, who is also the president of OASP that is an organization that designs, manages and coordinates sites of high seismic risk, or sites of high population concentration, economic activities, and many more. One of these areas is the Gulf of Corinth. Therefore, we hope for a close cooperation between the OASP and the CRL, which will be to the benefit of both parties. I would like to thank you all for being here. I wish you a nice day and looking forward on meeting you here next year.

**Kaviris** 08:16

-Thank you very much for the welcome Professor Antonarakou. Now I think we can start.

**Elias** 08:22

-Yes, we can start, hello and good morning. It's nice to see you all here in a physical area, physical space. Hopefully will not have again the need of doing this by zoom or any other means. So, we'll begin following the agenda. In each point, anyone who would like to add something of course he/she is able to do this. So, beginning with the agenda is a brief overview of the activity of the observatory since October and the scientific overview of CRL. To just keep in mind, that within this period one proposal has been submitted to the INFRA horizon structure and dealing with the new concept of the NFO infrastructure. So, with this proposal all 6 NFOs have participated. And within this project, we have gathered four concepts and we present them as a pillar in order for the next NFO to match them. The first pillar was the infrastructure itself, the new sensors. The second pillar was the workflows of elevating the detectability. The third pillar was the early warning component, and the services to the community. The fourth pillar was the testbed site concept. The evaluation will be finished at 20 of September, as they have told us. This is big effort and hopefully, many others in the future will join.

Now about the scientific part, there has been a paper in progress, led by Dr. Kapetanidis and Dr. Serpetsidaki. This is the second paper of the CRL crisis-earthquake activity that we had last year. It is in progress and hopefully, it would be finished and submitted this month. Yes, also, there is another paper that has been submitted, led by Jirí Zahradník that is specialized for the earthquake of February 27. The other two papers, the one that is published, and the one that is being led by Dr. Kapetanidis and Dr. Serpetsidaki, are considering the whole crisis and not on one specific earthquake.

**Kaviris** 11:30

-I think that from the scientific point of view, this was the main thing, the fact that we were able to submit this project and we are hoping that it will be funded, of course, there is also the GEO-INQUIRE project which has been approved and we are waiting for it to start. And the Western Gulf of Corinth is again a testbed, which is again, important for the CRL. It's important, I think, to continue these actions and be able to attract scientists from worldwide and Europe and the young people working in the area.

**Elias** 12:52

-Okay, thank you. So if you would like to add anything in this issue please?

**Bernard** 12:59

-What is the name of the project submitted?

**Elias** 13:03

-The name of the project is TRANSFORM. It is towards advanced fault engineering observatories. And as I told you in September, we'll know the results.

**Kaviris** 13:23

-We can also mention the partners, starting with the National Observatory of Athens, which is the leader, the University of Patras, the University of Athens, IPGP, CUP from Prague (Charles University), the University of Naples, INGV, ETH from Switzerland, NIEP from Romania and Marmara from Turkey. If I'm not forgetting anyone yes.

**Elias** 13:57

-Moreover, it is the region of western Greece that is participating under NOA and also OASP. Under the National and Kapodistrian University of Athens.

**Bernard** 14:12

-What is the budget for Corinth?

**Elias** 14:20

-For Corinth it is more than one million because it was from the beginning that most of the budget will be in the CRL.

**Kaviris** 14:40

-Is there any question? Yes Bernard,

**Bernard** 15:00

-A question for Jirí Zahradník, I want to know if you're willing to push for the reviewers for your paper?

**Zahradník** 15:10

I am willing to push for the reviewers for my paper and the second review

**Kaviris** 15:22

-And for the other paper Kapetanidis is here of course but I think that we're waiting for the GNSS part right Kapetanidis?

**Kapetanidis** 15:48

-Yes, and a little bit of the discussion section.

**Elias** 16:02

-Okay, so we'll move on. So, we'll pass quick the points of last year's discussion we have made, all of you have received the detailed minutes of last October for the last meeting. And also you have received another document which is some abstracted points and some tasks that could have been appointed. Okay, since there's no much advancement since then, we can do no other than to read them and reappointed or change something within them.

**Kaviris** 16:56

-Or we can discuss and if we decide that there is not enough time or there is no one willing, it is better to discard them than keep them for years.

**Elias** 20:14

-So, I guess the first point is the need to establish a global strategy for Telemetry costs.

**Kaviris** 21:17

-We have discussed in that list for us in the University of Athens where the cost for the CRL stations and this procedure cannot be changed. It's like ??? and Pascal they know it. So, the pattern must be similar, for each it has to be like this.

**Elias** 21:50

-Okay, we have to replace all the modems by the end of 2022.

**Kaviris** 22:04

-Again, for this I can tell you that us of the University of Athens we have started purchasing modems for 4G and we are going to install them soon not only to the CRL area but to the whole network because 2G stops and we don't know if GPRS is enough.

**Elias** 23:37

-Οkay, so this will be an issue for a technical meeting followed most probably on September or during the summer. If there is any need to have a meeting either technical or scientific. Please let us know I mean, I considered that we can meet on September I don't know if it is crucial to make it before summer. If there is any need, please let me know.

**Kaviris** 24:13

-Yeah we have performed meetings, technical meetings, with Madani and Kapetanidis. And we have also performed scientific meetings for the paper so I think we should go on.

**Elias** 24:25

Yes but if someone has the need to make either scientific or technical meetings, please let us know what to consider. Okay, the next point is about the communication with the meteorologists from NOA for common installations.We have to reassign. I think we must have them on board. So, I will go to discuss with them having this in mind. So, the weekly reports today are considered useful. They improve the dissemination. I think that they are now disseminated. We get the input. It will stay as it is if it's useful. For me, for Georgew and for Thimios last year it was useful.

**Ganas** 25:43

-I would like to inform you that I installed a broadband station south of Aigion in the old CRL system that was removed last year and a corner reflector and a new GNSS station.

**Elias** 26:29

-Next, we will organize within September a technical meeting for the maintenance. If there is a need for that, please let us know Madani. know. So, yes Madani if there is an issue please let us know.

**(???)**

**Bernard** 29:10

-There's not much detail yet. It is difficult to investigate.

**(???)**

**Elias** 30:34

-Continuing, pool of short period seismometers as discussed by Madani last year to investigate for finding a pool of short period seismometers. So, about the situation, has anything changed?

(???)

**Kaviris** 31:51

-So, it will be in Patras until there is an emergency.

**Elias** 32:13

-Αlso this will be arranged during that technical meeting perhaps what will be the situation and what people what they can do about that.

**Kaviris** 32:29

-Yes. But for local events, it's fine

**Bernard** 32:43

-I want to add two points on this topic. INGV has the now ??? nodes add for temporary location. ???

**Kaviris** 33:19

-And maybe they will be available for CRL.

**Bernard** 33:22

(???)

**Kaviris** 34:27

-Yes, this will be very helpful for the sites before getting the fibers there, right?

**Bernard** 34:37

-These are possibilities for future installation on existing sites.

**Kaviris** 34:41

- And I also get that we will have some information about these nodes. When can they be available, how can somebody use them etc.

**Elias** 36:18

-Νext point, there was funding from the French side and previously the previous meeting will discuss about the possibility of having some early funding for the CRL

**Bernard** 36:47

-There are similar projects including funding for maintenance or new instruments so I can just show it to my slide presentation.

**Kaviris** 37:06

-If you want you can bring it here.

**Bernard** 39:09

-Τhis is a recent project, which France and Greece are partners. So, it was something that we discussed recently at a conference. So, we are aiming to have 45,000 euros per year shared between Greece and France and the interesting discussion is who will receive the money to distribute to the other partner.

**Kaviris** 41:08

-We can talk about this later in this session today.

**Zahradník** 41:14

-There is also this French project, which is called SISCORPAT, which is a small research project with the budget of 15,000 euros per year, maybe next year we can have a little bit more and it's mostly for field work from the French side. Νew arrays and instrumentation in the Corinth-Patras area, coordination of the French teams. So, that's diplomatic, which can account for, at least for that reason. The project called CORPATSI, which Greece is included but it will not receiving money, its only for the scientific part. So if this is money for travel and meeting of French teams in Greece, to foster the cooperation between France and Greece, and the idea of this is being funded by CNRS, in order to make a first step towards an international Observatory, which will be accepted by CNRS. So this budget is for building the infrastructure, and for the field work through the station maintenance

Then we have this French project, FIMOPTIC, which has a part in in mind in Sweden and other parts incurrence. It is mostly aimed at installation and testing of new optical sensors in Greece, in the Western Gulf of Corinth. And the idea is to develop and construct and install two optic fiber strainmeters and two tiltmeters in tunnels along the Psathopyrgos fault. And in fact, we will go down about here tomorrow for visiting the sites and where we might find a place in the tunnels.

So there are some projects on the French side we can help to work but continue to work and continue but we need to improve the system and focus on some places which are apparently of more interest.

**Ganas** 45:08

-About this you should take into account that there is a history of landslides in the footwall of the Psathopyrgos fault.

**Bernard** 45:25

(???)

**Ganas** 46:20

-Ι think also you in the Olympia highway, they have their own monitoring system as well. So, you can find data in case you are looking to find something.

**Elias** 46:58

-Okay, back to the last year's points. So the next one is a CRL Fault map, in which the incorporation to the National one is happening. Maybe Ganas will like to tell us some points he made.

**Ganas** 47:39

About the National Seismitoctonic Database committee, with EPPO that has started designing the database, but the work is going on very slowly. We have tried to classify the fault activity with respect to some degree of confidence. So as you move from land to the offshore areas, [we have some ??? That's why this work will take some time at least two years. So the important ???

**Elias** 51:38

-Perhaps we can arrange a very specific meeting for that in the future. Would you like to put your name to this point? If you have any advancements to let us know. Perhaps, we can facilitate discussions about this.

**Kaviris** 52:01

-And even propose a working group in the CRL because you know better who is working.

**Ganas** 54:32

???

**Elias** 55:51

-So do you want, the names of Ganas and Bernard to be included in this point? Sakellariou cannot be included because we want people within the CRL.

**Kaviris** 56:04

yes, somebody

**Elias** 56:06

from the CRA working group

**Ganas** 56:12

must come running from principle

**Elias** 56:15

Yes until we can make the products if necessary together but just Moreover, any way you can to make some progress to the

**Elias** 1:03:29

-The next point is about the manual and/or automatic catalogs in CRL Portal, perhaps

…(???)

**Papadimitriou** 1:05:40

-There is also another catalog made by me and Dr. Kapetanidis, I do not know if it will be of use for you.

**Elias** 1:06:00

-Yes it is good if we can gather all these catalogs in the CRL portal, I know that this would be easy but it is not a priority. Okay, so if you have any data or anything that you would like to send to the CRL portal please let us know.

**Kaviris** 1:06:40

-The data catalogs, despite being manual or automatic they can easily be pulled in the CRL portal.

**Elias** 1:18:51

-Okay, we'll come back to the second coordination session and discuss the governance so we can see the points raised there last year and discuss according to the agenda and governance issues. So going for the agenda for the coordination first session if there are brief overviews of maintenance actions, since October 21 and Madani will tell us something later so we'll discuss it after the break briefly and also have discussed that information and will be showing just to remind to impose some idea to have some kinds of newsletters that will be issued regularly or not regularly we will have to decide either every three months or every six months. It is a big effort to issue this kind of letter. I don't know if someone has to add something or propose anything or even try to coordinate the bulletin so we can say or impose etc.

**Elias** 22:31

-Okay, we'll start now the second session for this coordination. I propose to do the following, I will read the points from the last year's meeting and perhaps we can enrich the conversation by taking the initial content from the points of last year's. So I will share again. For those being online, I guess you can hear us.

**Kaviris** 23:06

-Can you hear us online? Okay, they can hear us.

**Elias** 23:21

-Okay, so last year we said to conduct a scientific visiting committee 3-6 members outside of CRL in order to evaluate and propose strategy of CRL and prepare a document for the governance of CRL as an entity. It was up to me to do it, but actually we need the advice of the members of the scientific visiting committee. So I will put again to remind you of the proposal names. Perhaps we have one or two names, but not more, or three. Number one, I think is Antonio, but I'm not so sure because he's in the CRL. Could be Antonio.

**Kaviris** 24:51

-We agree to propose professor George Tsoflias, who is in the states in Kansas University. He's interested now in CRL, he will even come to the CRL school (2022) in September. He has a lot of experience in evaluating. He has evaluated the undergraduate program of the National and Kapodistrian University of Athens of the Department of Geology and Geoenvironment. Moreover, very recently he was among the evaluators of the geodynamic section of the National Observatory of Athens. So I think he is a good option.

**Elias** 25:31

Another option could be Professor Townend from the University of Wellington comment from an New Zealanf NFO like.

**Kaviris** 26:22

-Could be GATEANO or LAURO or JOHN.

**Elias** 26:38

-Okay. So perhaps the other three could be them. The next point is about the preparation of a complete document of the cost for running the observatory and then post it to portal and disseminate it to various entities. There is an initial version of the document. But also we have prepared within many proposals. Perhaps it will be updated. But we'll have to put it in a complete version. There is also another document prepared from Pierre

**Kaviris** 27:36

-Yes, there was a document some years ago, but it needs to be updated.

**Elias** 27:45

-Ok the next point is to inform Greek and Czech partners for details on the IRP (international research project).

**Kaviris** 28:05

-This is important for CNRS because it's a first step to construct the kind of formal coordination between the CNRS and the partners in Greece, which is very good. People from the CNRS have accepted that, and they are in the mood to do that. Because the institution has signed this little paper that you were asked to sign to say you are in agreement that a partnership should be formed. Please let me know for the next steps. Because as we show there is a will to do this in the University of Athens, and we want to continue this.

**Elias** 29:13

-Okay. So I don't know about the funding steps for this.

**Kaviris** 29:24

-It would be through projects. Now that we have the time, it's better to go faster. Next year, we should really start because this funding would go for the maintenance. And this could be even signed by directors.

**Elias** 30:08

-This will also lead to an opportunity to work with more equipment there. And so, this could be also a way of Greece that people invented at event planning for the equipment.

**Kaviris** 30:50

-I believe this has to do with the next point, which is about the link with Meteo of NOA.

**Elias** 31:38

-But also it links with the point of the agenda, it has to do with the formal entity of CRL. Also, you have to consider how you can have a more formal entity and a formal governance of course. So the point is that we can consider if we'd like to establish a MOU, basically a not so strict kind of MOU in the beginning to help to know, what it has been done all this 30 years. I mean, in the CRL lab there is a list of participants. I don't know how well this has been formalized since the beginning. I mean, if there is some agreement already signed in the past, we don't have this kind of information.

One point is this and also another point is what is the history that has been done for this point? What we'd like to do from now on. Moreover, we have to consider if we compose this MOU. It has to be fine also with the governance, I mean, it has to be clear also what this meeting will do, who will participate into this meeting? And perhaps to clarify some aspects of this. So please, if you have the knowledge of what it has been done in these 30 years to incorporate it in the first part and also to start the forming of the MOU so that CRL can be complete as an entity.

**Sokos** 34:04

-We had started composing an MOU a few years ago. We should try again since EPOS has been evolved formally, we have to follow.

**Elias** 35:00

-If you have a document, it should not be for EPOS, it should be for the CRL.

**Kaviris** 35:18

-And the question is what Elias said, which will be the institutes, let's say now, in the NFOs it is CNRS, the National Observatory of Athens, the University of Patras and the University of Athens. Now we're discussing, to add Charles University, but if you go to the website of the CRL, and you see the partners there is a huge number of partners, which I never know some of them. Of course not everybody of them will be part, but the question it will be only the ones that I mentioned will be more and which are the criteria for somebody to be part of CRL.

**Sokos** 36:08

-I get all these parties that appear in the webpage of the CRL that they have been at some time cooperating.

**Kaviris** 38:40

-We can see here that for Greece, let's say that we have also have Harokopeio, the University of Athens and Thessaloniki. There are people from all these institutes that are cooperating.

**Elias** 40:06

-Ok, I would like also to say that we can put a coordination meeting and having this tasks and well, perhaps we can come up with two components, perhaps not too many and not too strict. Okay, so if you give me this MOU, I will disseminate to all other people, just to be informed and have the knowledge. And each person should take into consideration all the other's opinion of course. I believe we can prepare a document about that until the end of this year, right? Even though it can be a little optimistic, it should be in a top priority.

**Avallone** 43:40

-I have a very specific question. Is there any connection between the CRL portal that you just showed and the EPOS portal. To explain myself I will make a parallel with the TCS of the GNSS. Each GNSS community of each partner has their own website. But the TCS build a portal to share all the data, they own the products within the scientific community and all of us can contribute to this portal. If I understood well the reason I assume that there should be a portal that leads to each NFO and of course also CRL, and my question is if the call is okay.

**Kaviris** 45:25

-There is CREW for GNSS and there is also FRIDGE, but it's underway. FRIDGE is the platform for the NFOs, but it's not ready yet.

**Avallone** 45:42

-Okay so the portal connects all the EPOS.

**Elias** 47:00

-The next point is about Charles University application for TNA in GEO-INQUIRE. Does anyone know something about this?

**Kaviris** 48:16

-Maybe Evangelidis could tell us a little about GEO-INQUIRE and when does it start?

**Evangelidis** 48:20

- Yes, about GEO-INQUIRE, it has a working package that is about visual and data access. So, within this task, we will see certain places within CRL places where we can install new types of instruments like DAS, and people from outside can come and collect data from these instruments. So, this part of the project itself has funds for transnational access and secure some money for some personnel but is mainly for people coming from outside. There are some pillars I would say, the first is about the optical instruments, DAS and fibers We also try to secure from outside sources some seismometers that we can install and make the data available to the users in seven days. The other pillar is about the GNSS part.

**Kaviris** 51:52

-We must know how to work with the new instruments as well.

**Elias** 52:08

-So, no optic fibers from the CRL side only from the TNA side the people that come? About the optic instruments let's say, it will be nothing from the CRL side it will be only from the side of the people that are coming to work to CRL after applying. Is for both sides, right?

**Elias** 53:35

-Continuing with the next point, I will try to make it quick, it is about the MOSAIC project. It has been submitted twice by Pierre in the past years. The second time it was close to be selected but it needs better score. Again, there is the need of someone to take a lead of the next MOSAIC call. The score is high, and I think it can be higher. We have to consider if someone would take the lead for this, at least to consider.

**Elias** 55:14

-Since all of points have been completed, we can proceed to the next session if you don't have anything to comment for the coordination and sustainability session. For this session we covered most points I think, but we'll have to discuss about the sustainability of the CRL including stations and fundamentals observatory. Mandani is something that you will present I guess.

**Kaviris** 55:44

I guess I can make yes yes

**Elias** 55:56

okay.

**Kaviris** 56:37

Data Flow

**Elias** 56:38

deposition

**…(???)**

**Elias** 1:07:00

-Please quickly move this discussion in a technical meeting later because we have to respect the schedule. So please conclude. So, it is necessary to have technical meetings of course, to discuss even this object and perhaps the more technical subjects, but it is not in a high priority because things do work now. It is up to you to decide if it is something that should be discussed during summer or after summer or September. We can also arrange it for October because of the CRL School.

**…(???)**

**--Long BREAK---**

**Kaviris**

About EPOS NFOs as you probably all know CRL is recognized as a Near Fault Observartory and the only international one. And I think the most active one we have our webpage or annual meetings, I think we have something like an example for most of the other NFO's. The others are TABOO, Irpinia, MArmara, Valais and Vrancea. And now I think Slovenia is becoming an observer, because they have applied to become. So after all these years, is the first time that CRL being the only international NFO will be funded. Of course, not for maintaining stations shows, nothing about instruments, but for services in order to provide services, and not only to provide them, but to give them in FRIDGE anf Glass, in the shape that EPOS requires. So we have a list of services that we will have to provide until the end of this year. As we have already discussed during the last meeting in November, the first thing that we have to do is to define who will be the service provider, which has to be only one for the CRL. And these have to be either CNRS which was until now or NOA, and then the money will be distributed among the partners. We have also to define which services will be provided. Of course, there is a high need for an IT person that certain we have all agreed about this. We have discussed and seen a board with Pascal, Christos, and Thimios. Panagiotis, this is well aware because GNSS is a strong component and Pierre said that it is Panagiotis , who will be the person for GNSS. But before going to the services, we have to discuss about the service provider. We asked Thimios as EPOS through Luaro if we can have two service providers, because it was much easier to have France and Greece because it's obviously easier to distribute the money, but the answer was negative. This cannot happen. So we have to decide who will be and how the distribution will be. As I have understood from Christos, it is very difficult for the Greek side to take the money and distribute it to France to the French side. It will be okay with the find a solution for the other Greek institutes. NKUA and the University of Patras but the problem is France how the money would go there.

**Bernard**

Is it okay for you to receive money for France? Can we have an agreement? So that under this contract, the money coming from EPOS I have two questions. Is CNRS allowing funds to travel from France to Greece somewhere. And if Greece accepts to sign an agreement under which the money can be transferred from CNRS to them, which is it University of Athens is it NOA? So this is something which has to be discussed between the two administrations.

**Kaviris**

But I think we're already late for this, because they are they are waiting for an answer yesterday, let's say and the mining is only for 2022. So we'll have to do what is quicker, because otherwise the money will not be sent.

**Bernard**

As the think is as is seems money will arrive in CRNS as a service provider,

**Kaviris**

Then which is the procedure to transfer the money to the Greek Institutions?

**Bernard**

So is there is no new agreements, the only way you can subcontract, with invoice.

**Kaviris**

About travel?

**Bernard**

We will not specify activities, it money to a global thing

**Elias**

It will be like an internal project.

**Briole**

If we want both sides to create international research laboratory in the sense CNRS understand with an agreement that will be arrived before that laboratory and demonstrate that is not a contract but we are already do research. And in the framework of agreement, for this and this reason, the CNRS will send the money needed to perform this and this activity because it is more efficient this way.

**Kaviris**

Of course, I think this cannot be done now. Maybe plan it for next year. But for this year, I think we don't have the time because the money is they told that is strictly for 2022.

**Bernard**

My suggestion is as long as there is no cooperation agreement, which will come hopefully next year, in the frame of his work, and data processing, etcetera, etcetera, we need that engineer, we need to travel.

**Sokos**

Does this mean that everyone in Greec should have acooperation with CNRS?

**Bernard**

No, only a representative for Greece and France. So it's better to start already with some kind of unique partner in Greece and the department in France.

**Kaviris**

So you mean it's better to give the money to one partner in Greece and thenFor CNRS

**Bernard**

For CNRS yes, otherwise they don't see the integration within CRL Otherwise, they will say, CNRS wants to have arelay in front of it.

**Sokos**

And also we leave Prague outside of these is is another complication. Even if we make this, to accept money from face to accept money from this consortium will be difficult because it will no give us an economic model or identity lets say.

**Kaviris**

what could be done only for this year in this case is that one is who takes and makes contract to people from any Institute. We are already late.

**Sokos**

We should do the best thing we can do. Everyone that can have his money and hire IT people to implement all of the web services for EPOS is enough for me.

**Bernard**

That is mean that if it is too complicated for you in the coming months to organize yourself to appear as a single body with illegitimate access to money which is not for this year only. Maybe CNRS say that it is easy to do that. And then it will lead to contract in some way.

**Sokos**

I cannot see how to work in the future because of this bureaucratic reasons and some borders between transferring money as I said even if we make a CRL consortium, and be able to accept money from outside this consortium will be dificult.

**Kaviris**

Chistos do you think that the transfer of money should be separately to three institutions or all to NOA and then NOA redistributes? For this year.

**Bernard**

We can specify rules of transferring money and these rules can be like if CRNS receives money from EPOS they will be distributed separately and it should be integrated in a global progression agreement

**Evangelidis**

The distribution of money cannot be made with subcontracts One can can get the whole amount of money for the Greek side and then declare the positions

**Bernard**

Is this ok for you. Because for CNRS is simpler.

**Kaviris**

But the first step is to declare that CNRS will be the service provider in order to get τhe money. And then we'll talk between us the Greek partners to discuss and decide who will be hired.

**Sokos**

In this case any university can offer

**Bernard**

That is easier for us having a formal way to do that

**Kaviris**

Yes, in order to travel you have to have a contract. But again, this can be solved. Because contracts will be to people from all universities and insitutes so these people will be eligible to travel. Yeah, a little bit more paperwork. What is really needed for this is in one or two IT person's right? And they say one or two because we might be one France and one in Greece.

**Bernard**

For France it is easy because if we have the money if you need it is ok to increase, yes, yes.

**Kaviris**

But first of all, you have to find an IT person in Greece. Because as as far as we have discussed until now, we don't know .

**Elias**

Perhaps I know but I have to be more detailed with him.

**Kaviris**

We need IT person. And of course we need persons to develop the services that will show and what was discussed last year, and we have let's say agreed is that there is no money for maintenance and nothing can be declared as maintenance but as services we can hire people one for seismology and for one for GNSS that would also take part of the services but what do they mainly do is that if we have a station not working and it's easy then they can go together to fix the station within one week 10 days which would help very much for French stations and be quicker right. So, now we can show the services that we have have discussed. The first service if I remember correctly is about the earthquakes. First of all look at the waveforms which are already there both from seismometers and from strong motion. There is no problem about these. So Pascal, you will write Lauro that you will that CNRS will be the service provider and send a plan as well Ok? This one what we'll see now. So, you see that the first three have already been delivered. It is the seismological data ,the waveforms, the information and acceleration waveforms We won't give OBS ,we won't give infrasound. So then it's earthquake parameters location ,magnitute ,phases. This is to CNRS it's for automatic, right Pascal? Number six upgrade parameters location magnitude, phases, Is it automatic?

**Madani**

The catalog we are about to deliver to EPOS is the catalog where the locations are made by Sophie.

**Kaviris**

And I think we have a manual as well, and after we discussed before about the quakeml which can offer more than one solution for each event, this ΙΤ person that we you will hire in France can take this catalog as well it and makes a common one because it will be much better in case you have manual solution to provide manual and from you, as well right. So, Christo, Thimio do you agree because you can have a common one and all solutions will be there for each user to decide, right?

**Bernard**

You suggest to include quakeml different phases from different formation from different groups

**Kaviris**

Yes, for the same event we have several solutions.

**Evangelidis**

Everything is there so it's an IT job.

**Papadimitriou**

I have a question. We provide this kind of data. Italy also provides waveforms. They provide quakeml through EIDA

**Kaviris**

That this is for CRL the Italians won't be funded for the services we are getting funded because we are international okay. So, for focal mechanics.

**Sokos**

Of course to include this as a service, we need some work, technical work. Because there are some standards for the outputs etc

**Kaviris**

In my opinion In Greece we would have on IT for CRL. For everything seismology and GNSS . But I think ther is scientific job to be done a little bit here to lower the threshold right? But first of all, we must give the information in the CRL webpage. The IT person can add this infomation.

**Bernard**

So can you make a list of the tasks you are asking for these ideas?

**Kaviris**

The list has to do with what we're discussing now. The services that we provide only now to separate then, which will be done by the French IT and what will be done by the Greek IT ,right, because we have two IT's. I think it's not two months. So, the next one is seismic attenuation velocity models .What we discussed about this is that we will provide what we already have. There are many 1D models there is tomography work. So this will just will be provided to FRIDGE, again by the IT to the format required. Vp/Vs, do you know anything new Thymios? Do they still require it as we discussed?

**Sokos**

I don't have this information.

**Kaviris**

This was what they may be for us was this Vp/Vs and the GNSS products? Lauro is not connected, he said that he will try because he's in the field. Vasili do you want to speak about the Vp/Vs ratio?

**Kapetanidis**

We can have manual picks

**Kaviris**

What we'll have to do in this part is to do it and then the IT person to make it compatible right? Per station per event.

**Kapetanidis**

(???)

**Madani**

(???) can be provided by an engineer for the institution who interested to implement this. fro FRIDGE and RESIF (???)

**Kaviris**

What I think we will do as I have discussed with Vassilis is that we check what there is we'll see what we can do and then decide. Okay, so the next one is about repeaters in multiplets to decide what we all give at least for this year, right Pascal? No repeaterly multiplets catalog for this year, and maybe next year we can discuss again, right? We need to understand that will be for the Vp/Vs data. First of all, we need a catalogue, phase catalogue in order to do that.

**Bernard**

Yes

**Kaviris**

We will apply our catalog.

**Papadimitriou**

Ok, we can do it.

**Kaviris**

This it charged to NKUA

**Elias**

So we are apply ours.

**Kaviris**

Yes. And we can discuss to apply another catalogue, as well, of course certainly. if we want to have more points and apply automatic catalog you can see but I think we should start by a manual one.

**Papadimitriou**

Our data concerns a part of the catalogue, the CRL catalogue, because the CRL catalogue must have a lot of earthquakes.

**Madani**

(???}

**Bernard**

Sophie does manual.

**Kaviris**

So we can apply to this as well, which year does it reach?

**Briole**

2016.

**Kaviris**

So it's back, what we need is a real time for the Vp/Vs. These catalogues can be distributed. (???). So for the relocation this time is made at ENS by (???) Yes, but this service is not going back on 2016? It's not what we need. These located events are old, so its not what is needed. So, about GNSS?

**Elias**

First of all, last September, we reduced the total number of stations because we had permanent stations outside of the core CRL area and this was not manageable. So, we have 22. Now, we have around a total of 15 stations that is managable for response to the needs except that near Patra two stations disappeared. So we will remove the instruments because the locations were not good. One is at the Psathopyrgos, the other one is Rodini 3. it's a pitty because those two statiuons they missed a lot from the study of the earthquake of the last swarm. So, I invite my younger colleagues who will do the GPS of tomorrow to think about replacing those two stations because there is a need there is the need for for stations at the west end of Psathopyrgos fault. Concerning the data, they are being acquired by all the receivers. Their age is around 15 years and pogressively they will fail. So, there is the need for the CRL NFO to replace these instruments. So, now, we are talking about service, but I just informed you that it will be difficult to maintain the service in the next years if the instruments will not be replaced. So, the data quantity supplied by all the recievers. They aquired every 30 sec. We cannot collect at one second for sevelar reasons. One is that the receivers are old the and if we do that there is a high risk of losing data. The second reason is logistics. The quality of telemetry on several sites is not enough for 1 sec or they are just in the limit and this is becoming more difficult with the additional constellations. So when the new receivers will have Gallileo, GPS, Gloanass and Beidou. So the transmission will be difficult in many places in 1 sec like in mountains. E.g. Rodini 3 is a site where the transmission is difficult. Maybe this will be solved thanks to the telephone companies, but we are working in remote places that they be difficult to access. So, the data of 30 seconds are all available through the webportal of CRL. Which means that the data arrives here in the server here in NKUA and then copies are made in more servers, where data are more safe and then they are processed on a daily basis. So, the raw data in RINEX are available, but not exactly in the right location at least required by EPOS. So, to pose the question: Is it our business to push the data through EPOS, or it is the business of EPOS to fetch all data. At the moment my observation is that the group is not that big, and we cannot do all the job. So, I expect the GNSS working group of EPOS to consider the possibility of rerepositories. So, to continue the discussion we started this morning about the web portal and data distribution facilities. And I support also what Thymios say about beraucracy and those things. I think for CRL NFO to survive, it is important to have our own system of data repository and may in the future the work that we can manage ourself. And once we achieve these, then the ΕPOS should be able to fetch the data. I recommend to consider this option because I am convinced that we will be unabled to satisfy EPOS for all those services, if we're obliged to do all the job by ourselves and in some cases once they will ask us, will not correspond to the reality. So this means that for GNSS to push a little bit, to continue with our won FTP repository, the one that we know and manage and then EPOS to collect the data, then the data of GNSS is processed. on a daily basis. At the moment, is not working very well for technical reasons. Supposed to be processed every night. So every following day we have the coordinates of the stations and then the timeseries of the coordinates are among the products that we already prepared. So of course time series of coordinates are already provided.

**Briole**

The problem in CRL is that velocity cannot be depicted because the stations' coordinates don't follow linearity. When there is an earthquake in Zakynthos, we have co-seismic deformation, it is what we demonstrated in our recent paper. So personally, I don't know what is the mean of velocity of the stations this year.

**Elias**

There is software that claim to remove any non-linear deformation from GNSS. It is supposed to be used in EPOS.

**Briole**

So where is the need? If we select a location where we have a lot of deformations. This is the reason why we decided to do there. So, I think the real product is the time series and then the scientists who want to work on that, take the time series of coordinates and why we should provide velocities if we don't know exactly what it is, or is there any more advantages of the velocity and why should we produce strain rates if there is more that one solution?

**Bernard**

It should be nice to have the strain rate, every month or something like that because for instance, you can see the same for seismicity maps. Any body can take a seismicity map from a catalog. It doesn't need to calculate the coordinates. So if you have a time series, it seems right for more geodesists is to have an average rate between this and that so that it's stable, I think it we have to decide which one.

**Briole**

But the time series of coordinates is obvious that we should provide because then when you start the interpretations you want to know how the model will go.

**Bernard**

(???)

**Elias**

The strain rate product is for strain meters

**Bernard**

(???) and Monastiraki is good and we can plot the time series. It is just programming.

**Briole**

Are the data in the CRL portal?There isn;t this information in the web portal.

**Madani**

For meteo parametrs we have stations that are associated to the strainmeters. The data are available. The IT that will be hired can provide these data to EPOS.

**Briole**

The NOA is operating meteos network. So, perhaps some stations of NOA are inside the CRL area and as NOA is a partner of CRL is it possible to have absolute visibility and access to these stations?

**Elias**

it's something that needs to be discussed, as I have mentioned previously but I have seen that in the core there are no stations of NOA network. We can check again.

**Kaviris**

Meteorological data are not in EPOS. Νow about the historical earthquake catalog will provide it. It's an IT issue, we'll just define what we mean historical. I mean, it's up until 1900. I don't know if it's easy. It's too general but we'll provide it. Historical catalogue. It's until when?, until 1900, I guess. We provide the catalog, the IT will format it and that's it. It's easy. So, geological and the others are not provided.

**Evangelidis**

So, geophysical data strain meter are already provided. Now we are working.

**Papadimitriou**

What about geological data and tectonics.

**Kaviris**

Not in the scope. So GNSS site information information, I think this is again an IT issue, right? Everything is there. Most of them are ok. Work is needed to be done from the IT. The site logs are details of the stations that should be gathered.

**Briole**

They must be retrieved and communicated to the EPOS team. So they can show those stations.

**Elias**

This is what we have to do. Not the EPOS part. This is why we're getting funded this year. They won't do we given. So the IT person will contact the EPOS team in the kind of format and it's over.

**Kaviris**

GNSS daily solution?

**Elias**

They are being computed by the machine of Pierre, only the in the Presice Point Positioning (PPP).

**Briole**

Double differences is not perform.I think we should not propose double differences, now PPP is standard.

**Kaviris**

The same for GNSS coordinate time series. So you have to define that this tool will be only in PPP.

**Briole**

In the Web portal there are many interferograms. Concering time series and velocity of InSAR we have to discuss, because there are initiatives in that domain, in national and European level because the data the data are free given by the space agency and there in an activity on that topic performed in the moment by Foumelis of University of Thessaloniki. So we should not I don't think it's good idea to doublicate what he is doingand also there in the iniiative of European Ground Motion Service (EGMS) where in the portal you can find InSAR velocities over all Europe. So, it's not clear to me what we should provide, in Europe is already providing this service over this area. Why should we do this or if we do what is the added value of it?

**Elias**

First thing I would like to comment out that the European Ground Motion Service has been designed since many years before and second, is that perphaps, here we can put some high resolution data that are not being produced. Otherwise It's meaningless.

**Briole**

Higher resolution or higher quility. We think that we are better just because we because we target a small area and we can provide our own time series countries because we believe that are better. But this is not assessed. Something we need to do is to compare what we do with what European Ground Motion Service is doing. If finally asses that the secod is better then we have to reason to provide our own.

**Kaviris**

It was not a service that was required from CRL.

**Elias**

Yes, because this may come from the satellite community and it could be provided from there. About the accuracy the EGMS is calibrated by the EUREG GNSS stations, only. And it's been designed to work for large areas, but if we make a processing by our own more adapted to the CRL and we use all the GNSS, we would heva, not only more dense, but more absolute accuracy. Anyway we have to compare. We haven't seen anywhere a comparative study like that. Thus with way it may have a meaning. For this year we cannot claim to have this product, next year we will see. Even if we have a product we cannot claim that it will be updated as routine data provided.

**Briole**

it is important to know that the EGMS providing solutions beyond the 2021.

**Elias**

I think every six months it will be updated.

**Briole**

In CRL the most update interferogram is updated. This should be a basic product becasue after an earthquake we ruch to see the latest interferogram. This products is that we should tell to put in EPOS.

**Kaviris**

No, these are not for CRL when you don't see a number not nothing for CRM I think we discussed a number it's okay what I say in the area

**Papadimitriou**

Is there in the CRL area gas emission site?

**Karastathis**

There are in the eastern Gulf of Corinth, however I will install in the near future to other instruments in the western part. it's meaningless to provide the raw data. So, because I get all this data in real time we should process them remove the errors (sometimes the automatic solution gives wrong correction) and after we will provide them to CRL. it's okay. What I can do is when I install at least one, then we can collaborate.

**Bernard**

As soon as we have a precise location where you will put your instruments you could share with us so we think about a way to prepare something to add instruments as close as possible Would you be able to send us in a few days so we can just have a look?

**Karastathis**

Yes of course.

**Kaviris**

I think the last part of the EPOS and MoU session is about the participation of Charle University of Prague (CUP). During our last meeting, we discussed to have CUP being more active. And since then, Vlada who is the representative of CUP sent an official letter asking for CUP to be more active in CRL. I think there are two ways. The first is what we discussed before, is what we said about a new MoU of the core partners of CRL. I think that we all agreed that they should be CNRS. CNRS, the University of Athens, NOA, University of Athens and CUP. Do we all agree on this? That all five of us be the core partners? Of Lada Ed? ALL Agreed. An issue that I don't know what happens, is the representation of CRL to the NFO board. it's 50%, CNRS, right. And the other 50% is divided to the three Creek partners Correct. Of course, I have to say that until now, there was never such an issue of voting we are always all agree. And I believe that it will be like this. So I don't know if we would like to change this and I don't know how easy it is.

**Plicka**

I think that we always cooperate will with Thymios well. We don't have to be somehow in by some percentage.

**Zahradník**

Something that is working is better not to change and keep it easy.

**Kaviris**

I think that when you wish we could ask EPOS if it can be done. If you decide to do so, but for the internal MoU you will be in from the beginning. We all agree okay. Yes, so we agree until now. Perfect. So this is all for this session. Lauro didn't make it to join.

**Elias**

Fοr CRL School 2022, again, there will be a visit in a school perhaps will be the 3rd gymnasium of Nwfpaktos and we will ask from the mulicipality of nafpaktos to have a minibus for the transportation of the students. So that is for 22.

**Briole**

When we evented the CRL School, in 2014, with Panagiotis and Parcharidis from Harokopio, then the first real CRL school two years after in 2016 , we were not expecting this success. It is becoming really important, because it brings students with young people, and also people from abroad. And so I convinced that CRL School is something really important that we want to show and support inside nad tell EPOS that this educational component is really important, and maybe the other NFOs will follow.

**Kaviris**

We have already invited Gaeteno to come and present. And we have to say that we have 45 applications of students from all greek universities, every university that I know both, and many applications from many countries,

**Briole**

Let's say that we are going to select 15 or 20 among the 45. Even if it is too complicated to set up the new conference facility, maybe you should consider this option, understanding the difficulty,

**Kaviris**

I am not really in fond of, because if those that are not accepted to come , can watch then we will no apply.

**Briole**

Not necessarily because if you focus just two days online sessions and then the rest of course in the field, they will not be online but in the in the meeting room in their is the possibility of online access that it is good other wise of course of course, you can tell them that it will be the website with all the conference. But in this case, we have to plan clean recordings visual video recording to all presentations just those people not to be frustrated

**Elias**

Βut you know many of them are undergraduater before the MSc . Because all the PhD I most the master's are in. Also would like to help us even promote to more countries pitch. We have also to disseminate better through the universities in Europe.

**Kaviris**

We get students from many countries but not from France.

**Briole**

Because the students in September it's so difficult for them because because for example teaching is starting

**Kaviris**

Let's say that to this year , except for Anita Panteleli who always helps us still does we have four students helping us this year Angelo Zymvragakis is here, Roberto Davoli, Katerina Karabitiani and Chistophoros Kaltsas.

**Bernard**

Also know that having a visio part of the CRL School. In the previous year it was aninternet problem in the room.If this is solved, we can try it's not sure it.

**Elias**

In a letter that has been sent to the mayor will declared that we need better internet and we need small bus.

**Berenguer**

I am chair of the educational committee of EGU. So I will be in charge to manage budget and by EGU for CRL School this year. How many students you will have to select? How many teachers we are going to select and to see how much money we will have to help these people.

**Elias**

We have almost 42 application from teachers from all around Europe. We have selected for now 17 students and put 10 into priority.

**Kaviris**

It is the first time we are getting money from a private company who is supporting CRL school. And this is why we could manage to get 17. Money we'll provide it for students to stay to the hotel and some money for the meals, not for staying outside hotel in Patras or Nafpaktoss. Even if they come from the state or province in New Zealand from Spain, they have to arrive there. So it was important that we are funded by this private company. And we are getting the chance to to have more people

**Elias**

In order to know how many we can have, we have to solve some issues faster. And we have to receive an answer from minucipality of nafpaktos for the bus, otherwise, we have to pay the bus. So that's why they put in the waiting list almost eight students and 10 teachers who have to resolve this with Jean-Luc.

**Berenguer**

I will be able to pay for accommodation and meal for 17 students. We have also to fix the number of teacher, greek and foreign. Usually we invited for for foreign and fout for Greek teachers. We have 44 application.

**Elias**

I would propose to select how many could be funded by EGU. And then perphaps we can have a couple more from Greece additionally from the other source.

**Berenguer**

So as I have understood for the students, EGU will pay only for accomodation and meales, right?

**Elias**

Yes, This had happened in 19.

**Berenguer**

Okay, and for teachers, Greek and foreigners, we will pay accommodation, meals and travel.

**Elias**

Yes for Greek teachers it will be 100 and for foreign teachers you will arrange it internally.

**Berenguer**

For foreign teacher we have also to book the car from the airport to Nafpaktos.

**Kaviris**

there was an application from USA and New Zealand

**Elias**

Lets talk for School 2023. I have that in the geoinquire project there is a budget for CRL and for School .

**Ganas**

This is a workshop, I have the responsibility to orhanise sometime in 2024. There is a budget of about 40Keuros to cover international geophysics school. Also to data sets, data products, seismology, geodesy marine geology, geochemistry whatever.

**Kaviris**

So it something totally different than CRL school.

**Briole**

Yes. i think we should organize these events. We can think about how to organize them with a way different completelly.

**Elias**

For 22 school, this falling also to the public outreach component that we have also proposed to the municipality of Nafpaktos to have on Saturday night. So it is on 24th of September, evening, Saturday evening, to have an open session where we'll have some lectures in Greek for the citizens of the town, and we're waiting for his answer, it is something that we have been told that we will do it and since many years. Moreover, the project TRANSFORM has been submitted on April, it is foreseen also to have two public outreach events. Not only a targeted to public but also targeted to special stakeholders, but also to have some outreach if this project succeed, that this is falling to the public outreach component that we are foreseen in the future in the near future.

**Kaviris**

We have an ERASMUS agreement between Paris Diderot and the University of Athens but the issue is that it is between students unfortunately this at least until two years ago, it was not possible by the French side because Paris Diderot didn't in support to pay for students exchange so Pascal we will see if something has been chanhed in order to change the agreement.

**Briole**

It is good to have exchange in PhD level, they are not students but researchers. My opinion is to start the exchange at MSc level, this is what CRL school is doing.

**Kaviris**

This can be done.

**Briole**

For that we needed to check what are the connections between universities. In the case of Patras, more that ten years ago, in Ecole Normal Superiere and the University of Patras it was an agreement for exchange of the students. So this is what we have to declare.

**Kaviris**

Is is the same case, so we have base it is ready for MSc students but nobody apply.

**Briole**

Why? Because maybe we will not find the students here, to go to France or come here. Or perhaps we e were able to find students but not to travel for several reasons. In was in Catania for signature between the rector of the University of Catania and the rector of ENS and exactly about these structures and the situation. And what was understood from both partners is that we have to put the students first. So first we have to think about the facilities for the students, can we find a place to stay inside the univeristy or to help them to find a place?Just make sure that if they have a problem someone locally will be able to take care, then are we the teachers always can we commit to be really present to be with the students during the staying, could be one month. I have more than one feedback from students visiting Greekr univercities and they told that their professor was in the lab or sometimes in the morning from nine to twlve and then disappear, they were left alone. This also in France sometimes, the students abanded, we have to commit if we want to commit nad take care of the students.

**Kaviris**

But Pierre, if it's in a master level, then they have maybe the lessons

**Briole**

Not necessarily it can be internship.

**Kaviris**

This is something else. What do we have now it's for lessons.

**Briole**

I think it can be the internship is also part of theprogram of the master. You get credit for internship. In ENS for Master 1 they go for α semester and they get thirty credits or twenty seven for the internship. So this means that the ENS will give them the credits. But END will ask the partner university can we give the credits. We need more care, convince students that tracel here from France and vice versa.

**Elias**

I would like to ask if CRL school was better to be held earlier by e.g. one week in order for French people and French people to come. This may be an option or not?

**Briole**

We need to talk to people in all universities. FOr the moment for 22 and 23 I would not change the dates because September is more convinient for the weather conditions for the availability of hotels etc. What is more and more important is that can we improve to the CRL school as what of the field trips official in master level? We can talk about it, it could become official.

**Elias**

It was an issue of last year if CRL School can give some additional units but I think it was difficult. If some units can be given from Patras and Athens for this five days. If it is something we can consider.

**Briole**

In France it is not difficult to get credits, e.g. for students that go to Etna can get six credits and if talk seriously with the responsible of the master students, it can be three credits and this is legal. I don't see any kind of difficulty for the responsible of the master if they accept and decide that the scientific and didactic content is enough.

**Kaviris**

Thimio do you know anything about this? Can the University of Patras give credit to master students for attending CRL School? When I asked they said they don't know how can happen.

**Briole**

So regarding the program and studies in Geology department I think it's quite easy to link the program with the CRL activities. The director of the Environmental prost-graduate program of oceanography between Geolody and Biology department can actually discuss with the other members of the committee and I will let you know

**Papatheodorou**

Could you let me know as well, the procedure has to be done for our masters to do the similar thing. It's only the only decision of the committee of post-graduate studies.

**Elias**

And this is for educational units?

**Kaviris**

Yes, this is what we're talking about for giving ECTS right?

**Papatheodorou**

Yes.

**Kaviris**

I'll see to it. And if you could give me if you could verify that it's like this, it would help.

**Briole**

For instance, we can actually include in our oceanography program lasking about four to six ECTS for the field trip. So the decision could actually split the six to three to CRL and the others to other filed trip.

**Kaviris**

And I think that the fact that six or seven professionals from the University of Athens are teaching to the CRL school, I think it would be easy to get this decision.

**Elias**

To let you know, for the teachers, the CRL recognized by the Ministry of Education as a program for teachers and for pupils also, so it was a natural consequence to also look how we can achieve for ECTS.

**Kaviris**

The ECTS are given by each university. Of course this will be an issue because some students will have ECTS because their universities provide them and some other students won't have ECTS for the same school because their university are not provide them. It is fine to have the MoU first and then take the decision who to proceed.

**Elias**

So, perhaps it will be better in order to be attached with the CRL

**Kaviris**

Yes, but with other universities?

**Briole**

Perhaps each partner university must be aware. I think we should start the process and I think that at the end if most of the universities recognize this as an educational activity.

**Kaviris**

So, from the front side public universities are part of the CRL with the Masters. so, it will be four or five MSCs programs, which is important

**Elias**

So, when we descibe the MoU we have also to include a paragraph to CRL School.

**Briole**

This will have an impact to all EPOS. CRL is the most advanced NFO.

**Kaviris**

This is what NFOs group the Italians say, that CRL is advanced. E.g. these meetings are only in CRL.

**Elias**

we ought to say that we have a great interest and great therefore that is coming from the school professors and they give a lot of energy and they are interested and seem to care a lot about the educational activities for the pupils not only for their school but also from for the school that the CRL goes. Especially within the committee of the CRL School is Fotis Danaskos, who is very very active and he will have a lot of impact to CRL school because he plays a crucial role. And for disseminating the information to teacher to apply for CRL School. We haven't invited him, but it's a mistake. Perhaps in this session we can invite more people and especially Fotis. Perhaps in the thematic sessions we can invite the appropraite people. Now we can conclude and say a few thinks about the plannned action.

**Kaviris**

To summarize, we have to start MoU.

**Elias**

I guess this is a crucial point.

**Briole**

Thimios has a prototype that has be signed, and you will based upon this.

**Elias**

it will be appointed to one member of each entity to communicate for this MOU. it's not mandatory to be from the EPSO board, I think, because it's different to have to make a difference, We would like to be different and indepentent from EPOS and to came more from the CRL research players. Also we have to define here as an assembly, in order to be more official, the content, who is participating and if there will be some external members outside the institutions that would sign this MoU. Perhaps we can have independent researchers from other universities that are interested and could join us somehow. So perhaps, it will be not a very strict MoU, but perhaps a little bit broader. Especially if we compare with your version. It will be a little bit broader to contain these aspects that was discussed. So we'll have these minutes. It's painful prepare them but sometimes it is needed to have them

**Kaviris**

Before leaving as Pierre suggested go just back from the door for a group photo!