

DoDyNet - Workpackage 7 – Deliverable 7.9 Number 23 :

Training Report M14 – Year 1

During this first year, we organized the Elementary Modules I in September 2018 in FORTH, Heraklion, Crete. We chose to change the initial dates of this Elementary Modules (initially planned late July 2018) so that all the ESR would be recruited and could then participate to the Elementary Modules. Organizing them in September thus allowed us to organize only one set of Elementary Modules and thus enabled us to organize more Advanced Modules at a later stage as all the ESR were able to follow the Elementary Modules at the beginning of the project.

During these Elementary Modules, the following courses were given. The full programme can be found in the Appendix 1. For this event, we were very honored to have Emanuela Del Gado (Georgetown University) and Daniel Read (University of Leeds) as invited lecturers from our visiting expert supervisors.

- Introduction to Polymer Synthesis (*Renaud Nicolaÿ, ESPCI*)
- Introduction to supramolecular polymers (*Charles-André Fustin, UCLouvain*)
- Basic Polymer Science (*Daniel Read, ULeeds*)
- Curing chemistry of organic coating systems (*Patrice Roose, Allnex*)
- Introduction to scattering theory (*Daniel Read, ULeeds*)
- Introduction to Scattering Techniques (*Benoit Loppinet, FORTH*)
- Basic molecular rheology (linear regime) (*Dimitris Vlassopoulos FORTH*)
- High shear (*Dimitris Vlassopoulos FORTH*)
- Introduction to extensional rheology (*Qian Huang, DTU*)
- Double Dynamic Networks: a review (*Evelyne van Ruymbeke, UCLouvain*)
- Basic principles of coarse-grained molecular simulations (*Giovanni Ianniruberto, UN*)
- Microscopic dynamics and rheology of soft gels: computational approaches and connection to experiments (*Emanuela Del Gado, Georgetown University*)

The full abstract of each course can be found in the Deliverable “Elementary Modules 1 WP 7 D.7.1 N21” submitted on the 9th of October 2018 on the Participant Portal.

Following this event, a training evaluation was made. You will find here the report following the assessment made by the ESR following these Elementary Modules I given in FORTH in September 2018. The questionnaire they filled in for this feed-back is attached in Appendix 2.

Training Assessment : Elementary Modules I in FORTH September 2018

Following the Project Meeting in FORTH, a questionnaire was submitted to the PhD Students to have a feed-back on both the practical organization of the Elementary Modules and on the content of the courses given.

Part 1. Practical organization

First, we will focus on the practical organization of the Elementary Modules.

The feed-back on the accommodation was mitigated. 4 of them regarded it as “ok” whereas 3 stated it was “good” and 3 that it was “bad”.

Transport to and from the venue was mostly seen as “excellent” (68 % of participants).

69 % saw the schedule of the event and the programme as excellent. No bad reviews were given on the programme.

The timing of the event was positively rated, ranging from “ok” up to “excellent”.

53 % of participants saw the lunch breaks as “excellent”.

The lab visit was also appreciated with only positive feed-back on the visit and 46 % of students rating the visit as “excellent”.

All participants stated they had received sufficient information regarding the organization of the event. No one pointed out they would have liked some additional information on the event.

Part 2. Content of the Elementary Modules I

All the PhD students agreed to say that the courses covered the basics of their field.

83 % noted that they were satisfied with the content of the courses given. Two students made the following suggestions on courses that could have been given during these Modules:

- “From the perspective of researchers who have studied in the field of polymer physics and chemistry for a long time: How to carry out the fundamental scientific research systematically?”
- “More about the synthesis of polymer networks”.

Regarding the material given to follow the training (course online, printed material, PowerPoint presentations), 61% of the students would have like to have more material to help them follow the courses.

However, the preference for the material to give does not stand out clearly as all the suggestions were rated in a similar way:

- PowerPoint Presentations in advance (5)
- Printed course material (4)
- Courses available online before the presentation (5)

On the course material, the following comments were given:

- One student finds it better to get some material introducing the experimental theory before visiting the lab.
- Another asked for the possibility to record the courses by video so they could understand the courses better and have a review on them.
- Taking into account that “last minute changes” cannot be made if all the slides are given in advance, the students would like the slides of the courses right after the lecture for consultation. For example, a shared folder in a section of the website with the literature.

Regarding the length of the course, 75% thought that the courses followed a “good timing”. They consider that courses should last between 1h and 2h.

All students underlined they had enough time to ask questions after each course presentation.

They were also unanimous regarding the choice of the visiting experts. The experts were considered as “pertinent” choices for this Elementary Modules.

The 6 students who made requests or comments during the event noted that they were taken into account in the following stages of the meeting.

The following suggestions were made at the end of the questionnaire:

- Someone noted they would appreciate a short abstract of each course.
- If there are more lectures in one day, more breaks are required (each 45 minutes). PPT in advance or at least a few days after to have a second look at the taken notes to better reorganize them.
- One student noted that he would like to receive the presentations of the Intermediate meeting (especially the presentations of the Modules).
- No suggestions for the moment. Thanks for the work.
- Lectures of 90 min with 15 min break every 45 min. This student thinks a quick break every 45 min is necessary. Would be good to have the slides right after the modules.
- The organization of the previous training modules was fine, the student does not see any improvement to do from his point of view.
- No more courses longer than 1h30.
- Uploading presentations online would be good.

The following ideas were given as specific subjects that could be covered during the next Advanced Modules:

- Introduction of fracture and adhesion mechanism of classical polymers and reversible polymer networks in molecular level Characterization methods of mechanical properties of polymers.
- Fracture and adhesion from the molecular point of view. Concept of the mechanical properties and parameters involved at the beginning in order to follow better the developments. Reversible vs irreversible: what is different and what is in common. What mechanical properties do we expect from our networks.
- It could be interesting on focusing on basics and experimental part. Because I am not an expert and it could be an idea to combine theoretical part with experimental part as equal it [helps to] understand well and to assimilate all the information.
- Different characterization methods and some hand-on practices if possible.

Following the results of this questionnaire, the following items need to be taken into consideration for the next meeting

- They would like to have access to short abstracts before the courses are given.
- The students would like better access to course material beforehand, if possible.
- If not, they would like to have access to the course quickly after the Modules are given.
- The preference goes for: PowerPoint Presentation in advance and course available online before the presentation.
- They prefer courses that are 1-2h long with frequent breaks.
- They appreciate the time given to “Question and Answers” after each course.
- They would appreciate the opportunity to have “hands-on practices” and “experiments” during the Modules.

The next training planned for students will take place during our next meeting in January 2019 in DSM, Geleen. Costantino Creton, ESPCI Paris, is organizing the Advanced Modules I for this event. For this meeting, we are lucky to have Ralph Colby (Penn State University, USA) as invited lecturer.

Appendix 1 : Elementary Module I Programme

Elementary Modules I

Venue : **IESL, FORTH (Seminar room 1)**

Agenda

24 September 2018

8.45 – 9.00	Welcome and Introduction (<i>Evelyne van Ruymbeke, UCLouvain</i>)
9.00 – 11.00	Introduction to Polymer Synthesis (<i>Renaud Nicolaÿ, ESPCI</i>)
11.00 – 11.30	<i>Break</i>
11.30 – 13.00	Introduction to supramolecular polymers (<i>Charles-André Fustin, UCLouvain</i>)
13.00 – 14.30	<i>Lunch</i>
14.30 – 15.15	Basic Polymer Science (<i>Daniel Read, ULeeds</i>)
15.15 – 15.40	<i>Break</i>
15.40 – 17.30	Curing chemistry of organic coating systems (<i>Patrice Roose, Allnex</i>)

25 September 2018

8.45 – 10.15	Introduction to scattering theory (Daniel Read, ULeeds)
10.15 – 10.30	Break
10.30 – 12.00	Introduction to Scattering Techniques (Benoit Loppinet, FORTH)
12.00 – 13.30	Basic molecular rheology (linear regime) (Dimitris Vlassopoulos FORTH)
13.30 – 14.30	Lunch
14.30 – 15.30	High shear (Dimitris Vlassopoulos FORTH)
15.30 – 16.00	Break
16.00 – 17.30	Introduction to extensional rheology (Qian Huang, DTU)

26 September 2018

9.00 – 10.00	Double Dynamic Networks: a review (Evelyne van Ruymbeke, UCLouvain)
10.00 – 11.30	Basic principles of coarse-grained molecular simulations (Giovanni Ianniruberto, UN)
11.30 – 12.00	Break
12.00 – 14.00	Microscopic dynamics and rheology of soft gels: computational approaches and connection to experiments (Emanuela Del Gado, Georgetown University)

Appendix 2 : DoDyNet Elementary Modules I: Training Assessment, Crete 2018

This questionnaire is related to the Elementary Modules I you just followed in FORTH.

In order to improve the training, we would like you to provide feed-back regarding the courses and their contents. Please could you answer the following short questionnaire.

The result of the feedback will be made available in a summarized form to the Governing Board. The feedback will be kept anonymous.

The deadline to complete the questionnaire is the **25th of October 2018**.

Practical organization of the Elementary Modules I

On a scale of 1 to 5 (1 being poor and 5 being excellent), could you rate the following :

	1 (Poor)	2	3	4	5 (Excellent)
Accommodation					
Transport					
Schedule / Programme of the event					
Timing					
Lunch breaks					
Labo visit					

Did you receive sufficient information regarding the organization of the meeting?

- ☐ Yes
- ☐ No

Would you have needed some information you did not receive?

- ☐ Yes
- ☐ No

If yes, which one ?

Content of the Elementary Modules I

Did the course cover the basics of your field?

- ☐ Yes
- ☐ No

Are there any courses/subjects you would have liked to be given and were not?

- ☐ Yes
- ☐ No

If Yes, which ones?

Did you receive enough course material to follow the training (course online, printed material, PowerPoint presentations,) ?

- ☐ Yes
- ☐ No

What course material do you value the most?

- ☐ PowerPoint presentations in advance
- ☐ Printed course material
- ☐ Course available online before the presentation

Is there another course material you would suggest considering for the following Training event?

How did you view the length of each course?

- ☐ Too short
- ☐ Good timing
- ☐ Too long

What is the ideal length of a course for you:

- ☐ Less than 1h
- ☐ 1h
- ☐ 2h
- ☐ More than 2h

Did you have enough time to ask questions after each course presentations?

- ☐ Yes
- ☐ No

How did you value the choice of the visiting experts (Prof. Read, Prof. Marrucci, Prof. Del Gado)?

- ☐ Pertinent considering the content of the Elementary Modules I
- ☐ Field of competence too far from the content of the Elementary Modules I

If you made any request during the training, where they taken into account?

- ☐ Yes
- ☐ No
- ☐ Does not apply

Do you have any request and / or suggestion for the organization of the next Training Modules?

The next Advanced Modules will focus on *“Fracture and adhesion mechanism in reversible polymer networks and mechanical properties”*.

Are there any specific subjects you would like to have covered in these Modules?