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*Report on quality assessment of the Intensive  
Programme held at University of Warsaw, April 2018*

*Erasmus+ project ELBYSIER (Electronics for the Beyond  
Silicon Era).*

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## 1. Rationale

This report analyses replies to a questionnaire administered to students participating at the Intensive Programme (IP) held in Warsaw, Poland, in April 2018, as part of the ELBYSIER project. The objective of this report is to enhance the improvement cycle of the project by gaining insight into what worked well (and less well) at this IP. The report is part of the quality evaluation framework that is designed for the ELBYSIER project by the external evaluator.

The survey was filled in by 25 participants which is an excellent completion rate for this survey, allowing us to make safe and reliable conclusions.

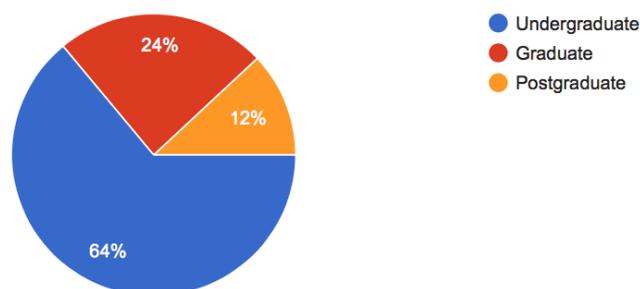
The survey was handed in to participants at the last day of the event. The survey template is the same for all IPs organised throughout the ELBYSIER project, allowing us to compare the same features across all IPs carried out during the project. The survey contains the following sections: study level and university of origin, motivations for attending the course, the degree of fulfillment of the expectations, the quality of each module, the usefulness of the materials, the relevance and content of the IP, the quality of the process, the presentation and the teaching staff, the quality of the administration and the venue. In what follows, each section of the survey is discussed with respect to the data gathered.

An additional survey will be administered to participants of this IP in September 2018, which corresponds to six months after the end of the IP with the aim of assessing impact of the IP in a medium-term perspective. Please refer to that report (R9) produced by the external evaluator.

## 2. Study level and university of origin

Mostly undergraduate and graduate students attended the IP, in line with the scope of this IP. Students from all ELBYSIER partner institutions participated in the survey which reflects a good mix of student backgrounds.

25 responses



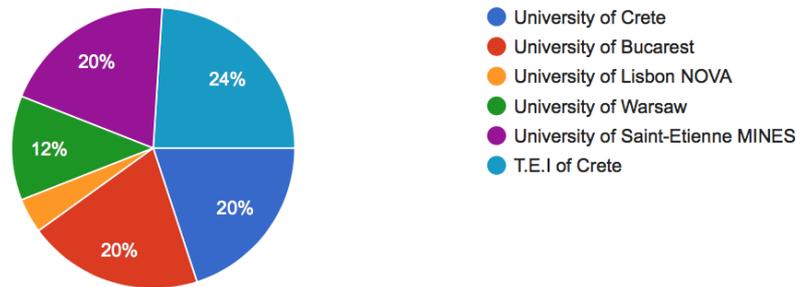


Figure 1 and 2: study level and origin of students.

### 3. Motivations for attending the course

To the question “please describe your motivation for attending the course” several replies were given. Most of the students highlighted the clear correlation between the ELBYSIER programme and the field of their studies or interests. They also emphasised the social aspect of the participation in the programme, i.e. an opportunity to meet new people and learn how to communicate effectively with them.

- *Spintronics is an interesting field of research for the present and future with many applications. My work in my PhD can be related to this field of study and is therefore a valuable asset for me<sup>1</sup>.*
- *To discover new applications and studies in spintronics area.*
- *Interesting lecture program*
- *To acquire the knowledge about Spintronics and Valleytronics*
- *Discovering spintronics for biomedical area and getting in touch with new people and their studies.*
- *Learning new applications for spintronics in the biomedical area/networking and meeting people from different countries and majors*
- *To acquire knowledge on spintronics*
- *I attended this conference because I wanted to know the concept and how spintronic can make change in different field applications.*
- *My motivation for the course and only for the course were to inform about the development of the technology, expand my mind-horizon and live a first experience about how is to live in a foreign country because I want to continue my studies in a master level out of my home country.*
- *I am specializing in microelectronics and nanoelectronic devices (master degree)*
- *To participate in an international student project for the first time/polish soft skills/learn about presented topics*
- *To expand my horizons due to learning about new technologies and international companion.*
- *To explore the fascinating field of spintronics*
- *To understand better meanings such as spin and spintronics, to gain new experiences and to meet new people.*
- *It helps me to see the evaluation of spintronics and their use in the future?*

<sup>1</sup> All citations verbatim.

- *How spintronics can affect positively other scientific fields.*
- *i found the topic very interesting and useful*
- *For expanding my knowledge in electronics*
- *To travel to a foreign country and discover a different educational system. Learning a couple of things about spintronics and valleytronics as well.*
- *I was interested in the subjects that were discussed.*
- *The Interest and curiosity of this hot topic namely spintronics.*
- *Learn something new and approach new concepts*
- *There were interesting subjects*
- *To explore the possibility of continuing my career in this field of physics*

#### 4. Expectations

This question serves to identify up to three expectations or objectives that participants had prior to attending the course. In the replies students mention a range of expectations, from strictly profession- and career- related, to social and cultural ones, all very relevant to this IP.

- *Making connections with other students/professors and institutes.*
- *Meet people about this area (Networking). Expand my knowledge in spintronics. Contact with new cultures.*
- *-High quality of lectures, good program outside-the-class activities, possibility to talk to professors and students from all around the world*
- *To meet and communicate with new people, learn to collaborate and know about a new field of science*
- *networking, discovering the advances in spintronics so far*
- *discovering spintronics/networking*
- *Learn about spintronics, come close with my colleagues from lab and meet young scientists*
- *Objectives: Get to know in what applications can spintronic be used and how it works. So, I get information in different working fields and new inventions. That's was so good. There were techniques I didn't knew how its work until this conference. From the activities, I can add the dinners we made it together and the walk out in Warsaw, so we can know each other and the city, and the preparation of the presentation for the journal club.*
- *My expectations were to watch courses not only for more information about the development of the technology in my kind of research but to try to watch them in a worldwide language which is different from my own. I have not socialized enough in my life with people in a foreign country and language, in a place like this and it was an experience which open links with different people and their links are kept after the workshop ELBYSIER.*
- *Interest in research Field of microelectronics Networking and learning*
- *Interact with foreign students in a productive way.*
- *I wanted to purchase practices at every day English as well as at scientific language.*
- *To expand my knowledge in electronics in general. To find possible PhD study area*
- *To understand deeply, to spend time to get to know people of other groups and to learn things about the hosting town.*
- *To learn about new technologies for electronics*
- *1.i was hoping to Learn about New technologies for spintronic devices. 2.i wanted to participate to this program cause was my second one and i wanted to meet the other People from the countries.*
- *to inform about the topic*
- *Mostly my objective was to be able to follow the courses. Being with people from different countries and spending a lot of time with them was something I thought would work out. In*

*the end my time with all those people was great and better than I firstly expected. I hope I will be able to meet with those people again.*

- *I wanted to learn new things, to improve my scientific skills as well as my communication skills, to visit a new place and see a new culture.*
- *I expected to improve my knowledge regarding other domains in research other than the one i will work in, to improve my communication skills and my level of understanding new concepts.*
- *Improve my relationships Found new materials and what other people do Improve my communication skills*
- *Learn new things, get to know new people,*
- *To widen my view of this domain in physics, find ideas for my bachelor's thesis and and meet again with the students and teachers I met 2 years ago.*

## 5. Expectations met

Regarding the degree of fulfillment of expectations, participants were asked to choose the most appropriate on a scale of 1 to 4 (1 expectations not met/ 2 expectations barely met/ 3 expectations partially met/ 4 expectations fully met). As showed by the replies, the strict majority of participants (expectations partially and fully met combined), considered that the course fitted to their expectations.

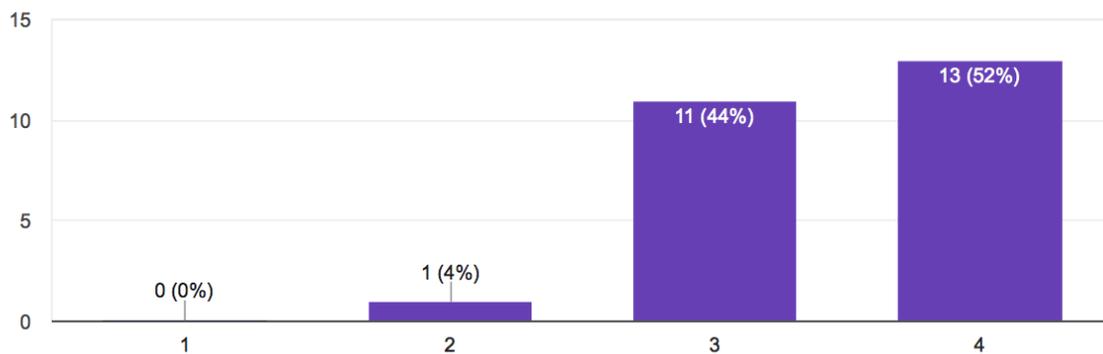
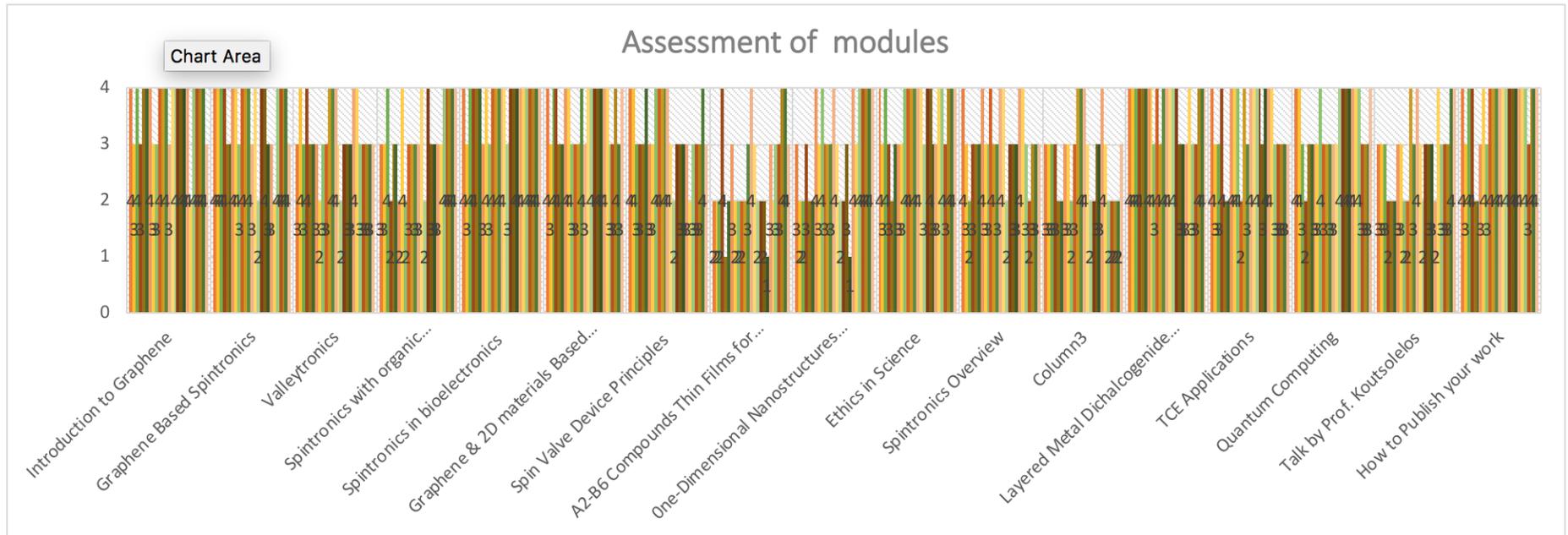


Figure 3: replies to the question “were your expectations met”?

## 6. Assessing quality of each module

Students were asked to assess quality of each module. The scores given by students to each module (1: Poor; 2: Barely good; 3: Good; 4: Very good) are illustrated below. It is clear that students scored each module high and, in several occasions, very high.



Figures 4: quality assessment of each module.

## 7. Usefulness of the materials

The materials (digital materials and handbook) were also rated by students regarding their usefulness. As the figure shows, they have been considered relevant overall.

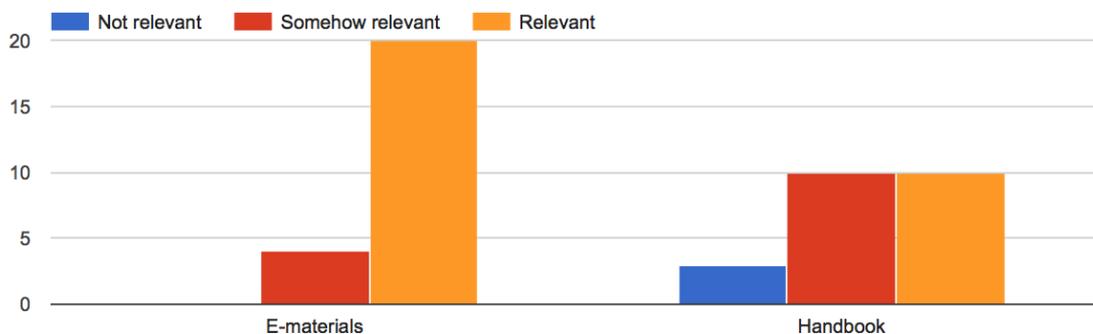


Figure 5: usefulness of the materials

## 8. Relevance and content

Students voiced their opinion regarding three questions with respect to relevance and content:

- The Intensive Programme was relevant to my work or studies
- The Intensive Programme met its objectives (if made clear)
- The Intensive Programme's workload was adequate

As the following chart shows, replies were overall very positive.

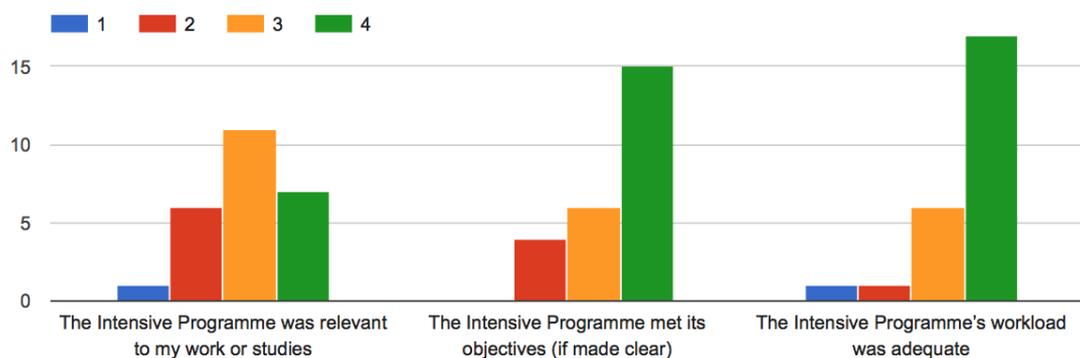


Figure 6: relevance and content.

## 9. Process, presentation and teaching staff

Students were asked to rate the overall process, presentation and the quality of teaching staff. More precisely, students gave their opinion to the following statements:

- The pace was about right
- The Intensive Programme was well delivered
- Information was delivered at the correct level
- Teaching staff were proficient and approachable
- There was adequate time for questions from participants

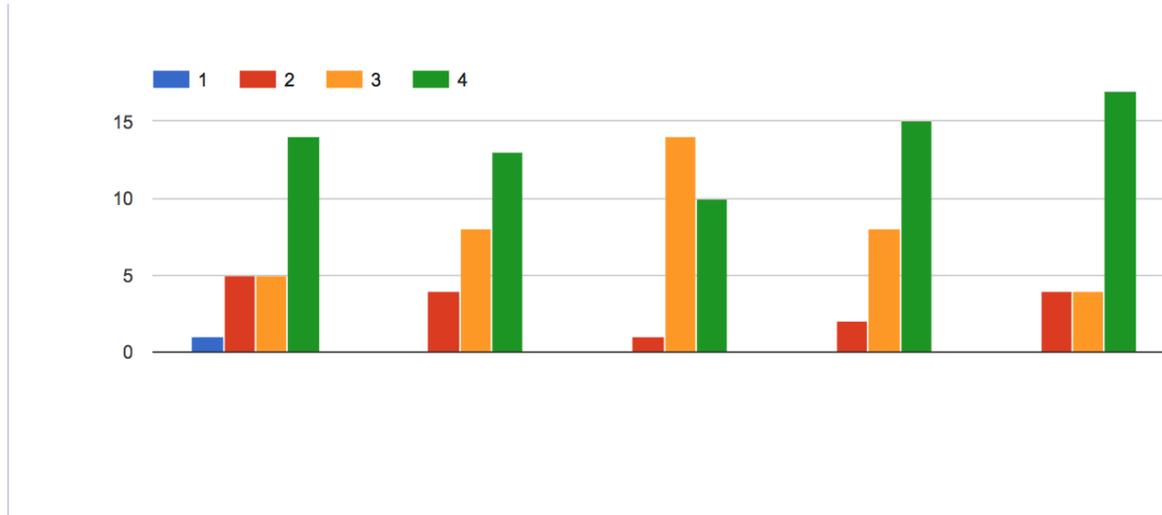


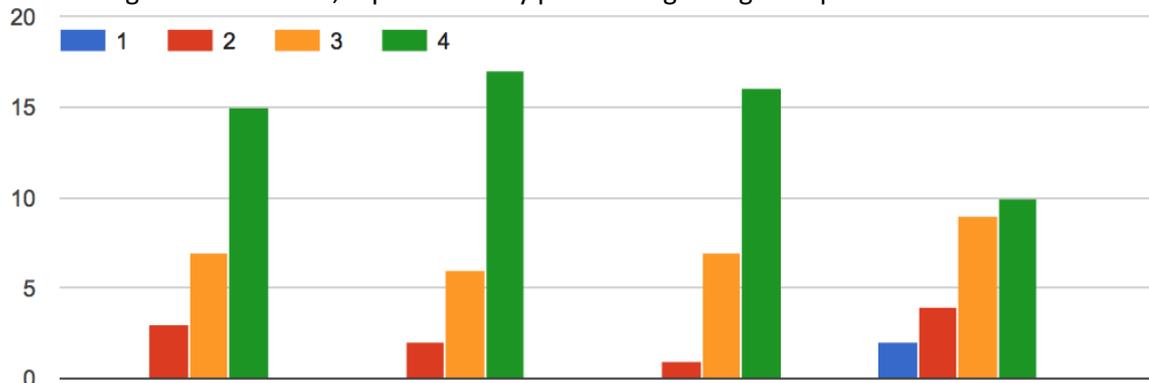
Figure 7: process, presentation and teaching staff

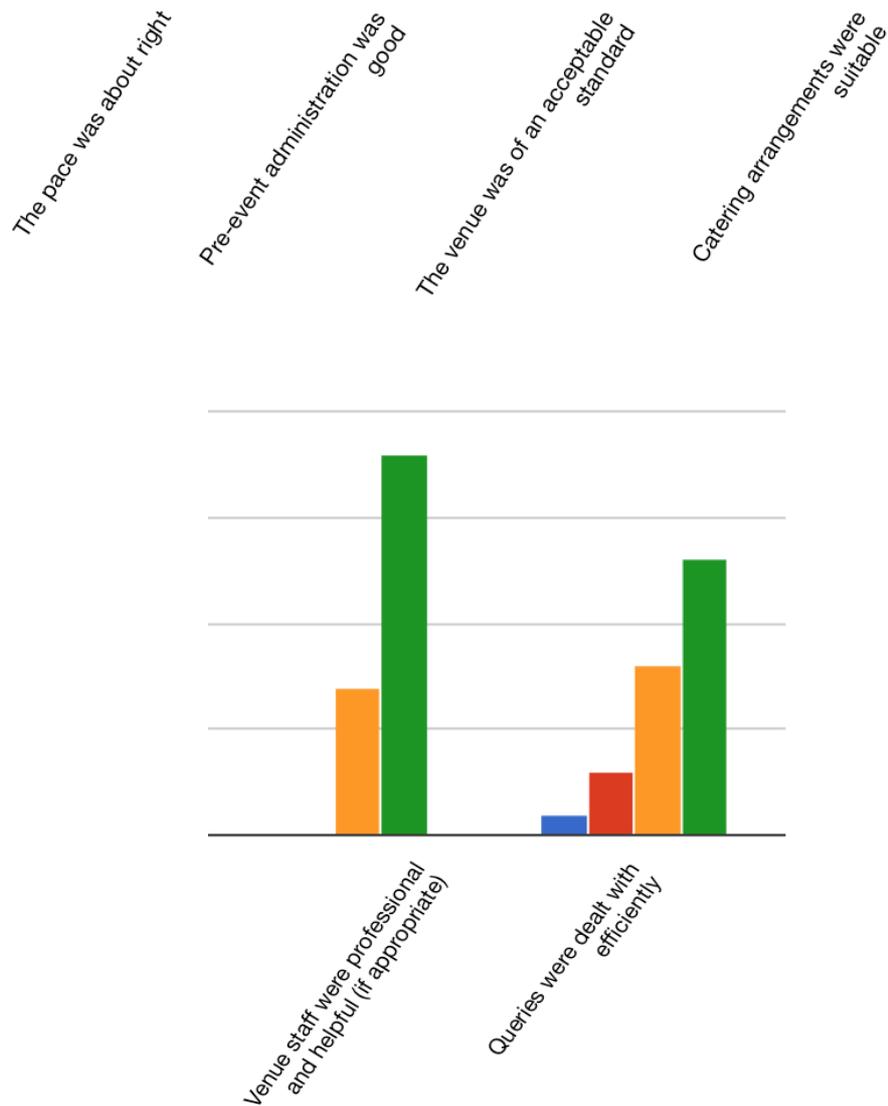
## 10. Administration and venue

The following statements were given to students to assess quality of administration and venue:

- The pace was about right
- Pre-event administration was good
- The venue was of an acceptable standard
- Catering arrangements were suitable
- Venue staff were professional and helpful (if appropriate)
- Queries were dealt with efficiently

As the following charts illustrate, replies are very positive regarding all aspects.





Figures 8a and 8b: administration and venue.

## 11. Further comments or suggestions

Finally, participants were asked to voice any further comments or suggestions, all of which are shared below, without any filtering. Except of an organisational matter (timing), the comments are overall positive.

- *Plan 5 more minutes for questions and try to make the presenters keep the schedule so that following presentations do not suffer too big shifts. Apart from that everything was great!*
- *Many speakers, and even the students, did not use their time efficiently. That means that the schedule was not followed with good precision during the IP. For example, one course of took 1h30, double of the time programmed. Except this point, the whole organization of the event did a great job.*
- *I would suggest finishing and start the lecture on time, also that the schedule provide a realistic time of lectures (for ex. 1h for lecture, 5 for questions, 15 min break).*
- *The small breaks helped us to get rest and understand better the lectures. I saw very nice work from different professors and their level of knowledge and labs were high! The Polish students helped us a lot and the atmosphere was friendly*

- *The presentation of an article for the journal club is a good idea, this will improve the team work skills and also to do researches on stuff we don't know. Thank you for organizing this conference!*
- *It was a very good experience and it was important to think that the organizer of the ELBYSIER was patient with the stress of some of the students. This fact about the patient and stress was an important factor about the process of the ELBYSIER Project.*
- *It was really great! Maybe limit the first breaks to 5min each as coffee breaks take 20min which is enough*
- *It is necessary to be time slot in the schedule for journal club preparation*
- *To be more time for the journal club.*
- *More Days to prepare the presentation for the journal club*
- *More time for the journal club*
- *Probably a bit more time for the presentations would be desirable*
- *It's been my second time attending this program and I am really happy with everything I learned this week. Keep up the great work and thank you! I hope there will be more projects like this to come!*
- *I suggest keeping in mind that for the further events the students should not be accommodated in dorms.*

## 12. Conclusion

25 participants filled in the survey which is a very good completion rate for this survey, allowing us to make safe and reliable conclusions.

For all criteria, student replies are, in overall, positive. In terms of preparation and delivery of the modules, in terms of links between expectations prior to the course and fulfillment of these expectations, results are very encouraging. The efforts in organising the event were appreciated by the participants and their expectations were met which can be treated in terms of success of the event.

Following this report (R8), another one (R9) collected perceptions of participants six months after the event, and which is a separate document at the disposal of any interested stakeholder.