# PSRS Quality Assurance Board Meeting (15/3/2024)

**Participants of the meeting**

1. Fabrizio Giorgis (POLITO)
2. Pietro Mandracci (POLITO)
3. Pasi Vahimaa (University of Eastern Finland)
4. Alain Tremeau (UJM)
5. Régis Fournier (UPEC)
6. Marwan Abdou Ahmed (University of Stuttgart)
7. Deborah Adigun (PSRS student delegate)

**Agenda**

1. Presentation and discussion about student evaluation of the courses - semester 1 & 3
   by the M1/M2 students at UJM (semester 1 and 3, Alain Trémeau)
   by the M2 students at POLITO (semester 3, Fabrizio Giorgis)
   by the M2 students at UPEC (semester 3, Régis Fournier)
2. Presentation/discussion on the last industrial and research days
3. Stats concerning PSRS Alumni in the last years

1. Presentation and discussion about student evaluation of the courses - semester 1 & 3

The QAB member Alain Tremeau, has presented the feedback of students during their stay in UJM in semester 1 (M1) and semester 3 (M2).

There are 6 mandatory modules (for 25 ECTS) offered at UJM during the 1st semester. At one of these modules corresponds 2 course units, for another one there was 3 course units. Some students registered in 12 course units (9 mandatory course units + 3 elective course units), few registered in 10 course units. 21 students were registered at UJM during the 1st semester. Among them only 8 filled the satisfaction questionnaires, which is more than in the previous cohort. The feedback is good, the average score for all courses is very good, and for some course units better than for previous years. Only 2 course units had an average score lower than 4 (with 3.7). 5 course units had an average score higher than 4.5. At the end of Semester 1 students had also a discussion with Alain Trémeau. Few expressed their dissatisfaction regarding the number of course units at UJM, and the lack of coordination and coherency of teaching and learning activities at UJM. There is a lot of workload in Semester 1, and some courses should come after another (e.g. Matlab after Fourier Optics). A report of this discussion was written by Alain Trémeau.

There are 5 mandatory modules (for 20 ECTS) offered at UJM during the 3rd semester. At one of these modules corresponds 4 course units, for another one there was 2 course units. Some students registered in more than 12 course units (9 mandatory course units + 3 elective course units). 7 students were registered at UJM during the 3rd semester. As last year, few students in this cohort filled the satisfaction questionnaires we asked them to fill. So, we cannot draw any valid statistics from these questionnaires.

At the end of Semester 3 students had also a discussion with Alain Trémeau. Few expressed their dissatisfaction regarding the number of course units at UJM, the planning/schedule of teaching activities and exams at UJM, the lack of coordination and coherency of teaching and learning activities at UJM, and the lack of feedback from the consortium regarding the improvements implemented from one year to another one (how comments/feedback from previous cohorts were considered?). Students considered also that there is a lack of coordination/coherency from one semester to another one (from one host institution to another one), especially regarding learning outcomes, academic expectations from the teaching staff, and amount of work for students (how many teaching hours/homework correspond 1 ECTS?). A report of this discussion was written by Alain Trémeau.

The QAB member Fabrizio Giorgis presented the results concerning the questionnaire held in POLITO in semester 3 (M2).

There are 8 modules offered for the PoliTo stage at the 3rd semester. This year all the 5 students attended to the same courses (Electronic Devices & Solid State Physics, Physics of Technological Processes, Nanosurfaces and Nanostructures, Materials and characterizations for Micro and Nanotechnologies), so that the statistics, also in the comparison is more reliable.

Students find that in some case, written examination are mostly memory based; more emphasis could be placed on laboratories; lectures are considered of good quality, with suitable materials delivered by professors. The feedback is good, the average ranking for all the courses is really improved over the years, in particular for the abovementioned courses chosen this year by students.

The QAB member Régis Fournier presented the results concerning the questionnaire held in UPEC in semester 3 (M2).

All the 4 students attending courses at UPEC gave a positive feedback. Results improved between 2023 and 2024; problems have been resolved in machine learning sessions. Professors delivered the lectures with enthusiasm and the students appreciated the projects The overall results are encouraging and generally good (2023 & 2024)

2. Presentation/discussion on the last industrial and research days

Fabrizio Giorgis presented the review of the PSRS industrial days and research day followed this academic year by the last cohort.

The program consisted in presentations scheduled from the end of September to the beginning of November, concerning 3D scanning of structured light, plasmonics for biosensing, laser technology for several applications, advanced microscopy, photonic application of Artificial Intelligence, medical optics.

Here some results on the satisfaction survey of the industrial days:

i) the majority of students define themselves beginners or with an intermediate knowledge in photonics, ii) the relevance of info shared by the industrial partners was considered quite high with a high rate of interaction between students and industrial guys, iii) students considered appealing internship and/or employment possibilities with the industrial partner.

Several aspects were considered valuable in the framework of a photonics Degree; it gives positive emphasis on how photonics merge with Artificial Intelligence, material science and biology with a fruitful insight about internships possibilities, that is a crucial issue.

As suggestions to improve such event, the students underline: i) organization of workshop and industrial visits, ii) presentation of projects which can concern the future thesis, iii) scheduling the events later during the semester so that they could be better prepared.

Some suggested topics to be added/integrated or 'expanded' in a future program deal with medical optics, machine learning and AI. Other suggestions concerned the organization of practical sessions beside the presentations and the creation of an online platform where seminar can be recorded, providing additional learning materials.

For what concerns the research day, it has been organized at the end of September. Students visited the Laboratoire Hubert Curien.

The Hubert Curien laboratory is a joint research unit of the Jean Monnet University (Saint-Etienne), the National Research Centre "CNRS" and the Institut d'Optique Graduate School. Students acquired knowledge on: digital holographic microscopy, classification of healthy and unhealthy cells, quantifying the efficiency of medical treatments, luminescent coatings used in anticounterfeiting applications, optical fibers used in dosimetry, laser technology devoted to the personalization of ID documents.

About the overall experience: the satisfaction is pretty good; the laboratory visit was considered useful to increase the scientific knowledge in applied photonics.

As suggestions to improve such event, students asked for: more interactive demonstrations, the possibility to have an overview of the research to be shown discussed before the visit, visit of clean rooms, a coffee break added in the middle of the visit.

The M1 student delegate Miss Deborah Adigun confirmed that students need of direct involvement in the labs rather than simple experimental demonstration.

## 3. Stats concerning PSRS Alumni in the last years

Fabrizio Giorgis summarized the results of interview involving the two last cohorts concerning the professional status after the Master Degree.

The results on such interviews deal with 10 graduates for the cohort 2020-2022 and 15 students for the cohort 2021-2023.

For the first cohort we have the majority currently employed in private Companies (the bulk is focused on photonics or on technologies involving also optics and photonics). A third continued with a PhD.

For the second one, one half goes ahead with a PhD, the other part is divided among 'working in private company/public institution/unemployed'.

Merging the two cohorts (thus analyzing a population of 25 students), a good balance between PhD students and graduates employed in private companies is obtained.