
*Quality assessment of the St-Etienne Intensive Programme (IP)
four months after its end*

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

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Rationale

On September 2017, a survey was dispatched to participants at the Gardanne Intensive Programme which was organized by the ELBYSIER team in March 2017. The purpose of this questionnaire was to help ELBYSIER partnership to understand what elements of the Intensive Programme the students have implemented between four and six months after the end of the IP.

The survey itself is available as annex to this document.

Three participants took part in the survey, despite the notifications of the project coordinator. The low completion rate is most probably linked to the participants having quitted graduate level courses and moved on to post-graduate studies.

Survey results

Participants were all graduate students, coming from the University of Warsaw (2) and the university of Lisbon (1) as table 1 shows.

Study level

3 responses



Institution

3 responses

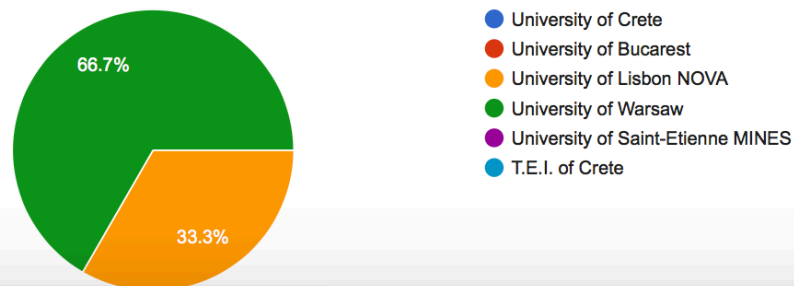


Figure 1: study level and institution

Asked to provide a summary of what they learned during the IP, students provided the following questions.

- *I've learned how to use knowledge of biology and physics together for better understanding of surrounding world.¹*
- *I have learned about bioelectronics in general and using bioelectrochemical devices and microcircuits to monitor and measure biological signals. In particular interesting was for me the use of transistors based on organic semiconductors that are capable of using biological signals as inputs in order to amplify them. Moreover, the course was helpful in developing cognitive functions and soft skills through several activities for instance: presentations and paper preparation.*
- *I became aware of existence and main trends of field of bio materials (especially biopolymers) and using them in medicine: diagnosis, drugs delivery, neuroscience... I learned many things not exactly in my field of interests but this school provides me very fresh knowledge, interesting on some point, giving me possibility to look at my own work from the different angle. Moreover I learnt much about publishing and presenting my work to other people.*

¹ All replies verbatim

When asked about any difficulties students have encountered, they offered the following feedback.

- *It would be really nice to get access to all of the presentations that we had through the Intensive Programme. It would help a lot in implementation, but I understand that it is very difficult to share it. Anyway, I had no problems to implement what I learned on the Intensive Programme.*
- *Everything was clear. My background however was not enough to fully understand some of the specific talks such as brain monitoring or cancer treatment.*
- *No.*

When asked about the ways that students have implemented knowledge acquired through this particular IP, we gathered the following replies.

- *I'm studying physics at the University of Warsaw and every day I have to face a lot of problems. Starting from doing measurements, than analysing the data and finishing with publishing my work. All of these steps need a lot of knowledge. During Intensive Programme, I've learned a lot especially in biology applications, but also in physics what helped me in better understanding of measured phenomena. I saw many really good prepared presentations and had opportunity to present my own presentation in a group what helped me in presenting my own results. At the end I've learned how to publish my data, which journal will be the best for me and how to do it in the best way.*
- *These topics were helpful in my field of study (related to oxide materials and transistor technologies with new functional materials). Paper publishing is always a part of my work and will also be helpful in the future. The talks gave me insight and opened my mind for new technologies (for instance PEDOT:PSS as an ionic conductor, semiconductor and electrochemicql agent).*
- *Mostly I improved my ability to showing my results. Moreover, there were presented many interesting information about applications of layered materials (as graphene) in combination with biocompatible polymers, which shows me new possibilities of my own work applications.*

A student wished to add an additional comment:

- *I think the Intensive Programme in Gardanne was the best of all the three Programs that I participated. Mostly because of the people, because this time there was a lot of people full of energy and willing to work in a group. But also organization of the whole event was excellent. In addition, the level of the lectures was also much higher what I really enjoyed. I am glad that I could be a part of this project :)*

In the following question, students were asked to assess whether they have used knowledge offered through the ELBYSIER IP in Gardanne in their current practice (i.e. after the IP's end).

Have you utilised knowledge from any of the modules below? [Dynamics of photo-responsive polymer gels (Dr McLeod)]	Have you utilised knowledge from any of the modules below? [A low cost, safe, disposable platform for diagnostic testing: lab on paper (Dr Fortunato)]	Have you utilised knowledge from any of the modules below? [Bio - microfluidic platform using nano probes (Dr Martins)]	Have you utilised knowledge from any of the modules below? [Photovoltaic structures based on organic and biologic / organic thin films (Dr Antohe)]	Have you utilised knowledge from any of the modules below? [The pigments of life in applications (Dr Coutselos)]	Have you utilised knowledge from any of the modules below? [Promoting the exploitation of new knowledge: the role of Science Parks (Dr Kiriakidis)]	Have you utilised knowledge from any of the modules below? [Advancements in cochlear implants (Dr Donahue)]	Have you utilised knowledge from any of the modules below? [Bioelectronics for the cancer therapy (Dr O'Connors)]	Have you utilised knowledge from any of the modules below? [Metal Oxide materials and devices based on transparent electronic materials for bio - , health and medical applications (Dr Kiriakidis)]	Have you utilised knowledge from any of the modules below? [Radiation microdevices based on the generation of mobile ions in polymeric gate dielectrics (Dr Kapetanakis)]	Have you utilised knowledge from any of the modules below? [Functionalized Nanoscale Sensors and Biosensors (Dr Wysmolek)]	Have you utilised knowledge from any of the modules below? [Therapeutic drug delivery (Dr Proctor)]	Have you utilised knowledge from any of the modules below? [Inkjet manufacturing of microfluidic devices (Dr Proctor)]	Have you utilised knowledge from any of the modules below? [In vitro toxicology (Dr Owens)]	Have you utilised knowledge from any of the modules below? [Neurophysiology (Dr Williams)]	Have you utilised knowledge from any of the modules below? [Multivariate signals and causality (Dr Kaminiski)]	Have you utilised knowledge from any of the modules below? [How to get your work published (Dr Malliaras)]
Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No	Yes	Yes	No	No	No	No	No	Yes	No	Yes	No	Yes	No	No	No	Yes
Yes	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes

Table 1: value of knowledge acquired through the Gardanne IP to professional development of participants

Conclusion

Despite the low number of respondents (three participants) the results of the post-training survey are very positive. Participants have valued the expert content offered but also social aspects and collaborative work which was triggered at the course.

In addition, all students for almost all modules offered claim having used knowledge of these modules after the end of the IP.

The positive results of the Gardanne IP build on the engaging and supportive environment ELBYSIER offers to participating staff and students.

Annex 1: survey

Post Course Questionnaire, six months after the Intensive Programme held in Gardanne, March 2017

The purpose of this short questionnaire is to help us assess the impact of the Intensive Programme that you attended in March 2017 in Gardanne in your professional career. Please help the project team to report to the Funding Agency the added-value of this Intensive Programme.



First name

Last name

Study level

1. Undergraduate
2. Graduate
3. Post-graduate

Institution

University of Crete

University of Bucarest

University of Lisbon NOVA

University of Warsaw
University of Saint-Etienne MINES
T.E.I. of Crete
Other...

Please provide a summary of what you learned during ELBYSIER Intensive Programme (Gardanne, March 2017)
Long-answer text

Have you encountered any difficulties in implementing what you learned on the Intensive Programme? Please provide details
Long-answer text

Have you utilised knowledge from any of the modules below?
Yes No

Dynamics of photo-responsive polymer gels (Dr McLeod)

A low cost, safe, disposable platform for diagnostic testing:lab on paper (Dr Fortunato)

Bio - microfluidic platform using nano probes (Dr Martins)

Photovoltaic structures based on organic and biologic / organic thin films (Dr Antohe)

The pigments of life in applications (Dr Coutsolelos)

Promoting the exploitation of new knowledge: the role of Science Parks (Dr Kiriakidis)

Advancements in cochlear implants (Dr Donahue)

Bioelectrics for the cancer therapy (Dr O'Connors)

Metal Oxide materials and devices based on transparent electronic materials for bio - , health and medical applications (Dr Kiriakidis)

Radiation microdosimeters based on the generation of mobile ions in polymeric gate dielectrics (Dr Kapetanakis)

Functionalized Materials for Nanoscale Sensors and Biosensors (Dr Wyszomolek)

Therapeutic drug delivery (Dr Proctor)

Ink Based Manufacturing of Semiconductors an in situ viewpoint (Dr Amassian)

In vitro toxicology (Dr Owens)

Neuroscience and electrophysiology (Dr Williamson)

Multivariate signals and causality (Dr Kaminiski)

How to get your work published (Dr Malliaras)

Please provide a summary of how you have implemented what you learned from the ELBYSIER Intensive Programme
Long-answer text

Please feel free to add any additional comments below
Long-answer text

Thank you for filling in the survey.

