

## EduNano minutes of the meeting in Nessebar, July 15 - 15, 2015

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## General Information

- The meetings took place in Nesebar, Bulgaria at the Mirage hotel.
- Participants:

| Institution             | Name                  |
|-------------------------|-----------------------|
| Tel Aviv University     | Jack Barokas          |
| TUS                     | Slavka Tzanova        |
| TUS                     | Svetozar Andreev      |
| Bar Ilan University     | Efrat Bodner          |
| Bar Ilan University     | Yuval Garini          |
| Ben Gurion University   | Tziona Elkayam-Cohen  |
| Ben Gurion University   | Gaby Sarusy           |
| Weizmann Institute      | Shelley Rap           |
| Weizmann Institute      | Sidney Cohen          |
| Samuel Neaman Institute | Vered Segal           |
| Hebrew University       | Tirza Lavi            |
| Politecnico di Torino   | Danilo Demarchi       |
| CIME                    | Laurent Fesquet       |
| Technion                | Ronit Lis Hachohen    |
| Elbit                   | Ervin Tal Gutelmacher |
| Elbit                   | Miri Ben Zvi          |

Management. Overview of the status of the project and of the tasks and deliverables. Intermediate report.

### Slavka:

- We have to send the intermediate report.
- We haven't spent 70% of the budget, therefore we can't receive the remaining 30%
- Travel reports should be sent to Slavka in one PDF file.
- The Technion caused a major delay in the project and among other things it affects the scheduling for student internship
- Slavka explained again the main instructions regarding expenditure allowed by the project rules.
- The project rules forbid expenditure of money on conferences.
- Slavka will check if we can participate in the Nanolsrael conference as part of the dissemination (See Yuval and Tziona's comments below).
- Courses should include additional materials, other than lecturer videos, in order to encourage students' engagement and enrich the learning material.
- Please remember one of the goals of the projects – Mobility of students for practical work in EU laboratories. Please make sure that the courses meet this goal.
- Partners should send an update report by this September – staff convention, time reports, mobility reports (flight tickets, boarding passes, etc.)
- Invoices in Hebrew should be translated to English.

- Slavka will send to all partners “Usability test” and “Learning attitudes test”

**Jack:**

- Every university should appoint someone to be in charge of Moodle management – upload of material, content management and other required tasks (visualization etc.). Jack will not do the work for all of us.
- If required, Jack is willing to arrange a Moodle training seminar in Tel Aviv.
- The stakeholders should start uploading material to Moodle in order to test it and detect problems.
- There is an Excel template for uploading user details to Moodle. Jack will resend it to all of us. We can then fill in the template with the students' details and Jack will open corresponding users in Moodle based on these details.
- Each university can choose its own pedagogical approach. There is no specific approach defined by the project.
- There is a Facebook account for the project, as well as a YouTube channel. Partners can use it to upload relevant materials. Jack will send links.
- Partners should take care of their site's design.
- We need a critical mass of content to attract more faculties to provide more content.
- Recognition of accreditation between universities is crucial for mobility.
- We should think of mutual accreditation. Maybe this should be discussed in one of the “VERA” meetings.
- Course sharing: The business model should be that in return for developing a few courses, a university will gain access to many courses developed by other universities. For this reason, mutual accreditation should be established.

**Danilo:**

- The “Euro Nano Forum” is a great opportunity to strengthen the relationship with industry. This year the conference will take place in Poland.

**Yuval:**

- We should participate in the “Israel Nano Conference” as part of the dissemination tasks.
- It is also a good opportunity to distribute questionnaires among students and faculties.

**Tsiona:**

- We should have a booth and poster at the “Israel Nano Conference “

**Ronit:**

- We should conduct a Formative Evaluation throughout the entire project's lifecycle - evaluate the courses, the way the learning takes place using this platform and whether we achieve project goals.

**Laurent:**

- Presented CIME Nanotech – they have a national academic network in France, which provides training and tuition in Microelectronics.

Status report by each University:

1.1. Technion – Ronit Lis Hacoen

- Syllabi of two courses are ready.
- Courses will be developed in “MOOC” format.
- In one of the courses we plan to have a guest lecturer, interview experts and film part of the course outside the classroom.
- We focus on creating a high engagement of the students by implementing an innovative pedagogic approach.

Comments on the Technion report:

If the Technion will not be able to keep to schedule regarding formal reports and development of courses, it might leave the project.

1.2. Samuel Neaman Institute – Vered Segal

- We have completed the first phase of “Need Analysis”.
- We are now in the stage of collecting and analyzing data from the Industry for the “Need Analysis”.

Comments on SNI report:

- Jack asked for a list of potential partners from the industry. Most of the companies develop their own training courses and we need to motivate them to participate in the consortium by granting them access to the project courses. This is a valuable way to strengthen the relationship between the industry and the academia.
- Another way to deepen the Industry – Academia relations is to gain access for students to industry facilities, such as labs.
- Jack will write one page about the project and its “business model” for the purpose of the first contact with a potential partner from the industry.
- Jack has contacted ORT Israel in order to involve high school students in the project. The goal is to allow high school students to participate in EduNano courses and get credits for this activity. Any other connections with high schools should be encouraged.

1.3. Tel Aviv University – Jack Barokas

- We have completed the filming of the courses.
- The videos include filming in clean rooms.

- Students will be able to take these courses completely on-line, though will have to take exams like any other student.

#### 1.4. Bar Ilan University – Efrat

- We have completed the filming of one course.
- This course will be available to students in the university in October. At the end of the semester we plan to conduct a survey among the students in order to improve the course.
- The second course will not be in front of an audience, and will involve some 3 or 4 lecturers.

#### 1.5. Hebrew University – Tirza

- We have planned to record both of the courses in front of a live class. One of the courses was recorded in low quality. We will therefore do it again. It will hopefully be finished by the end of September.
- The second course is for a broader audience and will involve lecturers from a variety of professional areas.

#### 1.6. Weizmann Institute – Sidney and Shelly

- We have planned to record both Weizmann courses in front of a live class.
- Sidney raised the issue of evaluation using this platform. He will teach his course in October and will run a pilot. There will be a test, but students will need to present one subject in a “TED” style presentation.

#### 1.7. Ben Gurion University - Tsiona

- They have almost finished uploading the videos of the two courses.
- One of the courses is for Graduate and Doctorate degrees. The second one is for high school students and will be given in Hebrew.
- Sidney raised some questions regarding evaluation

#### 1.8. Politecnico di Torino – Danilo

- They have two courses. The first one on Biosensors is complete. The second course on Molecular Electronics will be ready on the first semester, next year – around February 2016.
- The Israeli students will be invited to Politecnico to work in the Labs. These are not clean rooms so it is easiest to arrange – relevant mostly to students who will take Danilo’s’ course.

#### Comments on Politecnico report:

- Jack suggested that Danilo will plan contents which can suit also courses other than Polito’s, offered by other universities, in order to allow as many

students as possible to attend labs. May be to plan some “General Lab” procedures content.

- Danilo will prepare a list of practical’s that can be taken in Politecnico and Jack will send to all partners – for students mobility

### 1.9. CIME – Laurent

- They have the presentations of one of the two courses and a web site – did not shoot the videos yet.
- The second course developed from scratch – need to find a lecturer for this course.
- Cannot guarantee that will be ready by September 10<sup>th</sup>.

### 1.10. TUS – Slavka

- We have two HTML courses on Nanomaterials for electronics and on CAD for submicron devices. They are 75% ready. Some exercises and examples should be added.
- We intend to record one lecture on nanomaterials for flexible OLED structures and one laboratory practice at TUS. After this meeting Jack will travel to Sofia to record these materials with Dr. Maria Aleksandrova at the vacuum deposition laboratory at TUS.

### 1.11. Elbit – Ervin

- The courses will be with strong orientation to the application in the industry, less focus on the scientific aspects.
- They have completed 6 lessons.
- Miri Ben Zvi, VP Training, has joined the project. Her goal is to disseminate this training platform among all Elbit’s Engineers and evaluate this way of training.

#### Comments on Elbit report:

- Jack suggested taking Elbit as case study, in order to establish a model of educational cooperation to be implemented with more industrial companies.
- Slavka commented that from previous experience, developing courses to the industry, the employees do not have the time to take the courses. They need additional information and focus on specific skills. That is why our courses can be used as Performance Support System at the enterprises.
- In order to develop courses that meet the needs, we should conduct “needs analysis” through questionnaires.
- Ronit mentioned

## Evaluation

- A peer review of all courses was done by the representatives of all partner institutions.
- Slavka will send to all partners “Usability test” and “Learning attitudes test” for the pilot tests.

## Time table for next phases

- The original end date is November 2016. Obviously, we will need an extension.
- After we will get the feedback on the intermediate report, Slavka will ask for one-year extension.
- All courses need to be ready by the end of December 2015.
- Next project dissemination event is IVS at Weizmann Institute on 8<sup>th</sup> and 9<sup>th</sup> September. *(Sidney, Ron, please add more information)*
- To prepare the presentation of the project on NanoIsrael 2016 – All partners participate, Efrat and Yuval are organizing the participation. Slavka will ask Chiara about the financial issues (500 EUR per partner to be transferred to BIU for renting a booth, editing and printing materials etc).
- Next project meeting – February 1<sup>st</sup> – 2<sup>nd</sup> in Grenoble