



NanoEI-Asia project 573828

Virtual meeting on 29/12/2020

List of participants

Name	Institution
Danilo Demarchi	Politecnico di Torino
Ramesh Subramaniam Ramesh Kasi	University of Malaya
Rajkumar Durairaj Ezra Morris Abraham Gnanamuthu	University Tunku Abdul Rahman
Yanjie Wang Hailian Pan	University of Chinese Academy of Science
Jack Barokas	Tel Aviv University
Slavka Tzanova	Technical University of Sofia

The meeting objectives were to make a plan for the master classes to be delivered life on-line to the Partner university students in order to make the distant education and the distant delivery of new courses more attractive and to motivate them in this unusual situation.

The meeting started with information on the situation in each country and at the university from all partners.

Dr. Yanjie Wang, University of Chinese Academy of Science, Chin said that in China the situation was normal last 6 months and they had face-to-face classes with the students but last days there are new cases with COVID-19 and the universities are again closed.

The Malaysian partners said that the universities are locked down for two weeks and that every month the situation changes but in January they have examination session with the students.

Jack Barokas informed us that in Israel they have a full lockdown but the teachers work normally at the university. In Israel there are enough vaccines for all and a lot of people are already vaccinated and soon most of the people will be vaccinated as well.

Slavka Tzanova proposed to enrich the e-learning courses with life on-line lecturing from European partners to Partner countries' universities, so called to organise life on-line master classes. They could be as lectures within the innovated curricula or organised as extra-classes.

All partners accepted this proposal and the partners from Malaya university said that one course of Polito and one of TU-Sofia are convenient for their students.

The partners from University of Chinese Academy of Science said that they would be interested in master classes in nano-electronics.



The partners from Norway did not attend the meeting because of annual leave for Christmas but they have previously proposed with an e-mail to give master classes in microsystems (MEMS):” rganising online lectures is a good idea and we are positive to the initiative. We would be able to provide 1-2 lectures in both MEMS design and Sensor Interface. When that being said, the MEMS design course is offered to our students in the spring semester, starting from 11th Jan. If students from any of our partner universities would be interested in following the complete course, including taking the exam, we are open for doing that.”

They will be asked also if they can give lectures in nanosystems (NEMS).

Varsha Kelkar who did not attend the meeting has sent previously and e-mail to the coordinator with the topics for master classes at the the University of Mumbai: “Since we belong to the stream of basic sciences I would be happy to have the sessions on Bioelectronics (proposed by Danilo) that includes the following:

Cell systems: The course covers the electrophysiology of biological structures from an engineering angle.

Main topics:

- Introduction to cell systems –tissue organization structure and functions of macromolecules: polymers, carbohydrates, lipids, nucleic acids
- Plasma membrane construction structural and functional aspects, ion channels, signal transduction, neuronal structure, network and functioning special senses and their modelling, natural and man-made biomimetic structures.
- Basic concepts of bioelectronics molecular electronic devices, tissue engineering, micro and nanoscale biosensors and materials, different types of bioreceptors, properties of “G-Wire” DNA, metalloprotein electronics
- Types of transducers, electronic and ionic conductivities of microtubules and actin filaments, consequences for cell signaling and applications to bioelectronics, biomedical, brain-computer interface & artificial brain imaging & nanotechnology, interfacing microelectronics and the human visual system, microfluidic device and lab-on-a-chip”.

Danilo Demarchi proposed to provide the Partner countries students to follow his recorded lectures and to organise life feedback and consulting. Slavka suggested him to start with a life lecture to motivate the students and he confirmed he would give a 3-hour lecture at the beginning of the course.

Jack Barokas concluded that the proposed by Danilo tutoring is in fact a flipped classroom. He said that he is discussing with some professors from TAU to open their life lecturing to the Partners’ students through Zoom Webinars.

Danilo also propose to enrol in his online course in MEMS the Partner’s students.



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Slavka summarised that these ideas are great for virtual mobility of students and we could even profit from COVID situation. The virtual mobility in this form has not been planned in the project proposal and it is an innovation for the project.

ToDo List:

- All Partner country universities to send information about their study programme during the first half of 2021 and the topics of master classes they would like to have for their students;
- All Programme country universities to send information on the life on-line master classes they can do and flipped classes they can organise;
- All Programme country universities to send information on the courses in which they can enrol Partner country students e.g. to organise virtual mobility of students and teachers;
- Slavka will prepare the detailed description and plan of all new activities and she will send them to the project advisor.

Next Zoom meeting for final decision on the new activities and tasks will be on 12 January 2021 at 9:00 CET.