

Report on the activity in the framework of the European Inventor Network

Series of activities implemented by Renata Radzikowska under the responsibility of Prof. Wiesław L. Nowiński.

ACTIVITY 1: Festival of Innovation “Pick my brain” with Sylwia Stefańczyk, Translational Immunology PhD student

Short description of the activity

Festival of Innovation in Poland “Pick my Brain” with Sylwia Stefańczyk, a PhD student at the Department of Translational Immunology at the University Hospital Tübingen, shared her fascination with scientific research, professional experience, and passion for learning foreign languages in her speech “Science, Passion and Determination – a talk with a new scientist”. She talked about her life and work abroad while pursuing her dream to become a scientist. She explained what it took to achieve her goals and the research she is currently doing on the development and application of novel immune therapies for oncology patients. The research group in which she works is involved in the development of optimized anti-cancer antibodies and vaccination strategies, using knowledge in the field of cancer treatment and clinical evaluation of new therapeutic concepts.

Date and place of the activity

The 6th of September 2023, in the high school II LO Tomaszów Mazowiecki

Audience (number and age of the participants)

70 students of first and second year of biology and chemistry classes (aged 14-16), 5 teachers and II LO personnel.

Outcomes and achievement

The students got interested in the way scientists can follow their dreams which can be far from obvious and easy. If they want to make their dreams come true, apart from developing their interests, they need to learn foreign languages which will allow them to study and then work in the international environment. They learnt not to be discouraged by their grades when choosing a career. The teachers were given an incentive to inspire new creative minds.

Recommendations

It is vital to have enough time for the Q&A session after the talk of the speaker so as to allow the audience to have an opportunity to interact with them in a more informal way.





ACTIVITY 2: Festival of Innovation “Pick my brain” with Dr Alan Wilmański

Short description of the activity

A field trip to Cracow as part of the Festival of Innovation in Poland “Pick my Brain” with school alumni Dr Alan Wilmański and his colleagues in laboratories at the AGH University of Science and Technology. The participants saw the presentation of the latest scanning electron microscopes put into use in June 2023, preparation of samples for testing and viewing them under a microscope; 3D printing - presentation of various 3D printing techniques; learned about the use of laser light to cut hard materials, surfacing layers and initiating chemical reactions; saw the laboratories covering the entire technological process of preparing ceramic construction materials and testing their mechanical properties.

Date and place of the activity

The 25th September 2023 AGH University of Science and Technology

Audience (number and age of the participants)

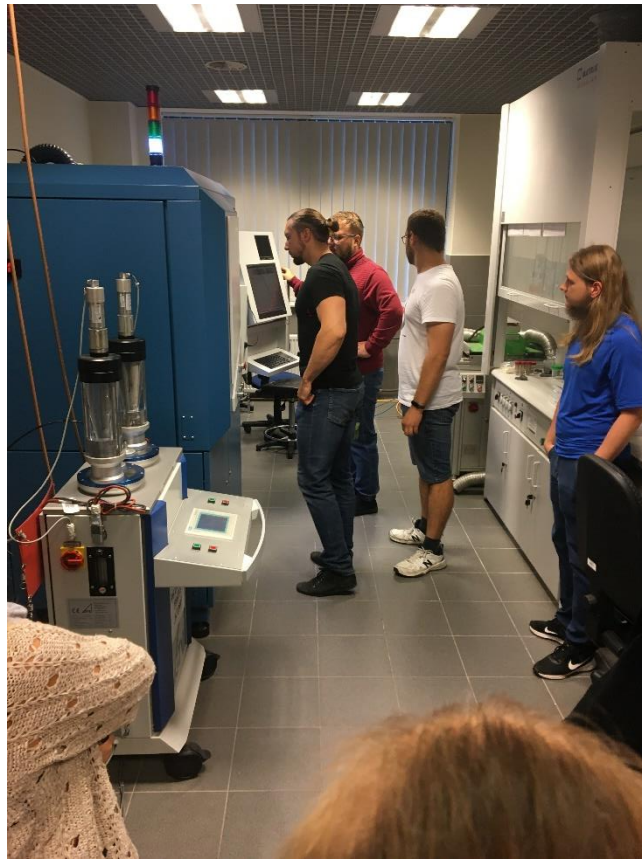
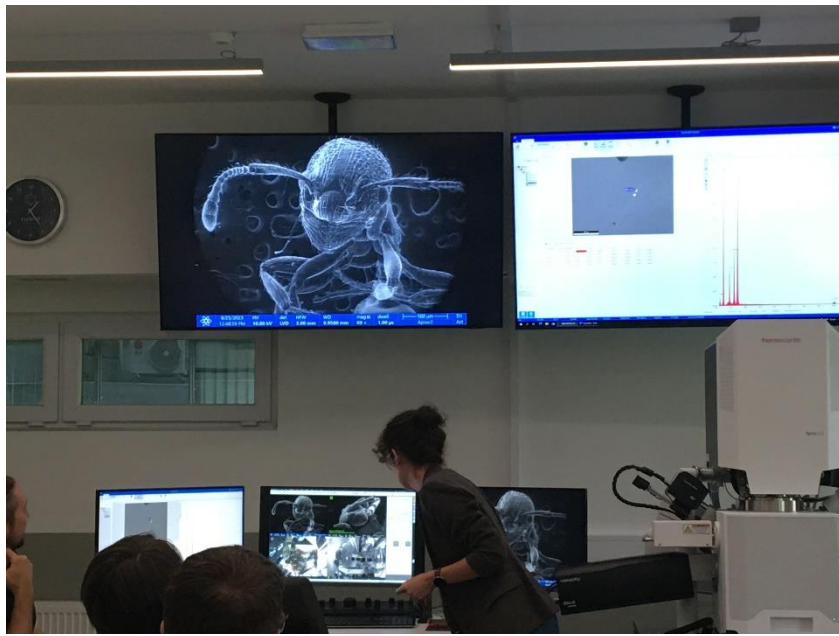
Twelve students of first and second year (aged 14-16) and two teachers (50, 52 of age) of II LO in Tomaszów Mazowiecki

Outcomes and achievement

At AGH we visited campus and got to know the Faculty. The students learned about the work of a research scientist working with ceramics. They observed him at work with an electron microscope, at the laser laboratory and some more laboratories dealing with the entire technological process of preparing ceramic construction materials and testing their mechanical properties. The passion and commitment of our scientist, who develops his interests as a scientist, motivated students to develop their interests.

Recommendations

The schools lack such field trips to see scientists at work. They should take place more often to inspire the students in a more academic environment. It was the first time the students and the teachers were able to use laser, watch, and talk to people working with electron microscopes.



ACTIVITY 3: Festival of Innovation “Pick my brain” with Ewa Krupa, HR Director and leader of innovation programs at Orange

Short description of the activity

“Pick my Brain” Festival of Innovation in Poland with Ms Ewa Krupa, the HR Director (Culture and People Development) and the leader of innovation programs at Orange, the largest telecommunications operator in Poland, was called “Tune in for the future”. She talked about her success story and the work ethics that she values, the world of the future we should prepare for and the skills we need to develop as the virtual world and new technologies will change what people do. The students were recommended projects to follow and programmes to learn. They were told about the trends for the future - the development of generative artificial intelligence, robotization and automation, ecology and green transformation and Be SMART learning strategy and the skills such as creativity, consistency, risk and calculation to work on.

Date and place of the activity

The 6th November 2023 at II LO, Tomaszów Mazowiecki, Poland

Audience (number and age of the participants)

120 students (14 - 19 years old) 6 teachers of II LO

Outcomes and achievement

We realised how much we rely on modern technology in general, how much AI is present in our lives and how much it will influence our future. We were made realise humans work well in crisis and the covid pandemic proved that we can change and adjust in no time. We realised that it made teachers and students learn to use modern technology which still influences the way we learn and teach. “Do not ruin a perfect crisis” said Churchill and we didn’t. We were directed to projects and applications to learn the skills necessary for the future.

Recommendations

Young people need to be inspired to get ready for the future including job market. The message that there do not exist jobs for many youngsters who will join the work market in a few years needs to get to them and their parents. Being creative, thinking our of the box, learning STEM subjects and foreign languages if the answer to then question how to prepare for the future.





ACTIVITY 4: Festival of Innovation “Pick my brain” with with Dr Marta Wtulich

Short description of the activity

“Pick my Brain” Festival of Innovation in Poland with Dr Marta Wtulich, a school graduate, who shared her success story in economics with the students of the managerial classes. As a certified moderator of SixSigma Black Belt, AGILE she has given examples of ESG implementation at her workplaces focusing on Sustainable Investment. She talked about the key factors of a successful innovation, and the ways of making the innovation work using Keizen, Lean, and AGILE methodology. She described the modern work environment and pointed the direction innovations and innovators are going to follow.

Date and place of the activity

The 7th December 2023 at II LO Tomaszów Mazowiecki, Poland

Audience (number and age of the participants)

90 students (aged 14 - 17) and 6 teachers (2 headteachers) of II LO in Tomaszów Mazowiecki, Poland

Outcomes and achievement

The listeners learnt what it takes for an innovation to be called an innovation and to succeed. In modern times even a simple thing can be an innovation as long it is new, consistent and credible. They were advised how to approach work environment with the Keizen, Lean and Agile mindsets which she explained. They were advised to treat arising problems as challenged to meet, and learn from them at all times and well as work smarter not harder. These may be obvious things but we tend to lose sight of them in the process of education. Above all we saw how the presentation should be prepared and given.

Recommendations

There should be more people at secondary school who have the opportunity to listen to accomplished speakers who are busy with innovations in their daily work. They have fresh perspectives from outside the school environment and serve as examples for the young to follow. But for the grant, it would be more difficult for us to do it at our school environment. It made us think out of the box.





ACTIVITY 5: Festival of Innovation “Rake your brain before Odyssey of the Mind®”

Short description of the activity

The group of students has been meeting with the certified Odyssey coaches to prepare for the competition Odyssey of the Mind as part of “Rake your brain before Odyssey of the Mind®” Festival of Innovation in Poland. They have been solving spontaneous problems verbally, hands-on, or a combination of both presented to them and the long-term problem they chose. They have been learning to think out of the box as a way of practicing for the competition. The practice of spontaneous problems and long-term problem competition tasks were provided by the competition organisers. The competition is on the 10th March 2024. If they are good enough the finals are on the 6th of April 2024.

Date and place of the activity

26.10 2023 - 15.12.2023 II LO in Tomaszów Mazowiecki, Poland

Audience (number and age of the participants)

10 students at 14-16 years old, two adult coaches - a teacher and a graduate

Outcomes and achievement

The students have become more eager to think independently and unconventionally and create original and effective solutions. They have been encouraged to act in innovative ways in the spirit of cooperation, to be open to the ideas and opinions of others. They are willing and ready to face challenges that require combining knowledge and imagination, science and art, hands and minds. They are not afraid to take risks and initiate process of creatively solving problems that can be solved in many ways.

Recommendations

It would be ideal for every school to find financial resources and time to implement the programme in the curriculum for the benefits of the teachers and the students alike to think out of the box and change their learning and teaching perspective.



ACTIVITY 6: Lecture by Rafał Kieszek, startup developer, MD PhD Transplant Surgeon

Short description of the activity

Our speaker guest was Rafał Kieszek, startup developer, MD PhD Transplant Surgeon, MBA, co-founder MedTube.net, leader of the first KPD Programme in Poland, performed first kidney paired donation transplantation in Poland.

He talked about his medical career, his persistence leading to innovative kidney chain transplant as well as his focus on innovative medicine, science, e-business and support for the innovative medical procedures in the world.

Date and place of the activity

21.12.2023 at II LO Tomaszów Mazowiecki, Poland

Audience (number and age of the participants)

Students of I - IV biology and chemistry classes, II managerial class (aged 14-19 years old) and 5 teachers

Outcomes and achievement

The audience learned about transplant surgeries in the world, the status of the donors in Poland and the legal aspects of transplants, the way kidney transplants are performed, the role of our speaker guest in creating a transplant-friendly environment in Poland, and the innovative ways of performing live donor transplants. The students learned about the future of transplantology with xenogeneic transplants, Tissue Engineering, and 3D-printed organs as a way of increasing the number of life-saving surgeries. We were encouraged to save people's lives and health by promoting further the idea of live donor transplants.

Recommendations

We firmly believe that the meetings with successful inventors and innovators that we have just finished would benefit young people who could get inspired to follow in their footsteps.





