

Films

The public screening of the documentary film called Particle Fever, owned by Prague EPS Young Minds section, connected with the lecture explaining the theoretical background and historical development of the discovery of Higgs particle was held at two venues. Even if the budget was designed only for one event we decided to realize two screenings to reach more people at the cost of limited refreshments at the second event. Because of absence of Czech subtitles for the film, our team created them so that the film was available for a wider audience. The event was promoted on Facebook, Twitter, posters and a dedicated web site (<http://particlefever.youngminds.cz/>) created by our section.

The first happening was on March 30, 2016 at Czech Technical University in Prague and the lecture was headed by Prof. Jiří Chýla, CSc. from the Institute of Physics of The Czech Academy of Sciences. The lecture called "Particle Fever" took about an hour. Before the lecture and before the film, a small refreshment containing water, coffee, tea and biscuits was provided. The approximate attendance was 35 people.

The second happening was on April 20, 2016 at Charles University in Prague and the lecture was headed by Doc. Mgr. Alexander Kupco, Ph.D. as well from Institute of Physics of The Czech Academy of Sciences. This event was conducted in tight partnership with the Union of Czech Mathematicians and Physicists and was included in the official program. The approximate attendance was 30 people.

The feedback of the participants was very positive and we hope that this event explained one of the greatest discoveries in particle physics over the last decade to the wider public.

International Particle Physics Masterclasses

International Masterclasses is an annual event traditionally held in February or March, which provides a unique opportunity for 15-19-year old students to discover particle physics. A total of approximately 10.000 high school students from 47 countries participate every year, effectively getting insight into topics and methods of basic research at the fundamentals of matter and forces. Not only are they given a chance to get out of school without being prosecuted, but they also put their hands on an experiment themselves by performing measurements on real data from particle physics experiments at CERN. Almost 200 universities or research centres are involved in this project.

There are three participating institutes in the Czech Republic – the Institute of Physics at the Silesian University in Opava, the Institute of Particle and Nuclear Physics at the Charles University in Prague and the Faculty of Nuclear Sciences and Physical Engineering at the Czech Technical University (FNSPE CTU) in Prague.

This year's International Particle Physics Masterclasses at the FNSPE CTU took place on March 18 2016 at the faculty's headquarters. The Czech part of the project is being organised in cooperation with the International Particle Physics Outreach Group, Prague EPS Young Minds section and CERN. The students are given an unique opportunity to become a particle physicist for one day without needing any special knowledge.

In the morning, the students went through a series of instructive lectures given by scientists who actively work at CERN, whereas in the afternoon, an actual data analysis from two LHC experiments – ATLAS and ALICE – was carried out. While analysing the experimental data from ATLAS, the students were given a chance to (re)discover the (divine) Higgs boson. The results were forwarded to CERN. The highlight of the day was a live videoconference with CERN physicist and with other teams from several universities abroad. At the very end, the best team was proclaimed. During the day, organizers prepared lunch, refreshments, beverages and coffee for participating students.

Mythbusters

In the last semester, the Mythbusters, organised by Prague EPS Young minds section, tackled one of the many conspiracy theories surrounding the LHC at CERN. Though the level of falsehood was astonishing, most of the statements presented are easily disproved and are based on complete lack of knowledge of the subject. This time, the Mythbusters have chosen less public, but partially more challenging target.

Gabor Fekete is notorious figure in the physics community. Many of those working in the field have received at least one email from this person - proclaiming most of the modern physics false and introducing new theory of particle mass. Fekete boldly challenges modern discoveries (e.g. last two Nobel prizes awarded in physics - Higgs Boson and Neutrino oscillation), but as most of conspiracy theories he fails to deliver any evidence and his counter-theory is base of false usage of established theories.

True malice of this persona however does not come from annoying spamming of vast number of physicist, but from false and unlawful impersonation of various prominent figures. He has pretended to be for example Peter Higgs or various members of Nobel committee. Though probably everyone can see through this deceit, it only shows that his claims cannot stand on its own merit and Gabor Fekete has to lower himself to such methods.

The Mythbuster's presentation focused mainly on debunking the "Fekete theory", where we tried to accurately present his theory and point out inconsistent usage of physical formulas. Further we disproved the accusations made against modern physics, defending for example Higgs boson discovery, where Fekete claims only one Higgs was observed (which is preposterous only because it was observed separately on two experiments).

The presentation was accompanied by refreshments in form of sandwiches and cakes. The event was attended by approximately 20 people and was well received, followed by conversation between presenters and the audience. It was for example pointed out that people from CERN also tend to get messages from Gabor Fekete.

7th CZ-SK Science Students Conference and CTU Students Meeting at the Start of the Semester

Prague EPS Young Minds section organized two large student meetings during the last few months. Both of them took place at Czech Technical University in Prague, first of them in April and the other one in May.

The first one was Start of the Semester Party. Well-organized advertisement of this event across Prague universities resulted in attendance of approximately 60 students. At the beginning, invited speaker gave the interesting talk about the gravitational waves, one of the newest and very important science discoveries. After a long and passionate discussion, all of the students attending the presentation were invited for the evening buffet, that lasted till the late-night hours. This event was generally rated as a good idea to connect students via interesting multidiscipline and actual presentation, and it is demanded to be organized in future.

Czechoslovak Science Students Conference is meeting of university students, when they have great opportunity to present their physical research and meet their colleagues. This conference is organized each year alternately in Slovakia and Czech Republic. This year, 60 students from these countries met at Czech Technical University in Prague. During the first day, students could attend several excursions in laboratories in Prague. At the evening, they were invited to a ceremonial dinner. After this dinner, we presented Young Minds project and our activities, then students could watch movie "Particle fever", owned by our section. The second day of conference was dedicated for presentations in 6 sections, each supervised by its jury. At the end of the conference, students with the best presentations were granted a prize. Prague EPS Young Minds section collaborated with Faculty of Nuclear Sciences and Physical engineering on organization of this conference. Particularly, we organized all of the activities during the first day of this international meeting. The second day, we arranged coffee breaks and helped with technical issues of the conference. Our contribution on organization of this event was highly appreciated.

Survey

In general, people do not know much about lives of the scientists and researchers, their career and educational possibilities. One of the projects of Prague EPS Young Minds section is make a survey which would address graduates and current master and doctoral students mainly from our faculty about satisfaction with the quality of their former education, in the context of their research career, work experience, salary, travel possibilities, amount of their free time, quality of their personal life, plans for the future, etc.

Our survey helps to familiarize with the situation in the science and research in objective and professional manner. It will draw attention to strong and, what is more important, weak points of the student scientific life at our faculty.

The survey was created using Google forms and it is accessible here: <http://goo.gl/forms/vo1FAJM5Wg>. For now survey is available only in Czech, but in the future we will consider translation into English and provision of the survey to other Young Minds sections. Our survey was finished in March 2016 and subsequently sent to chosen respondents. For now, first results are available. Totally, the survey was filled in by 45 respondents, mainly by master and postgraduate students from our faculty. Majority of them study or finished their studies in physics, mathematics and information technology. In general, respondents are satisfied with their studies and career, although there is large group of students who are satisfied only partially with their studies. Main problems are small amount of free time, lack of money at faculty and some boring subject that do not correspondent to requirements of their research projects. But on the other hand, many respondents appreciate interesting lessons, professionalism and friendliness of teachers and possibility to do high-quality research at faculty or in cooperation with foreign universities and research institutions.

We have also found out that financial situation of master and doctoral students and researchers is average, but many of them would appreciate better financial reward because in comparison with private sector, financial situation of respondents there is highly above the average salary in the Czech Republic.

Gathered data were and are still being processed in more detailed way.

After that, results were presented and discussed. During the presentation, small beverages were offered to students. Attending students were highly interested in these survey, thus we plan to repeat this presentation at the beginning of the next semester. The results of our survey will be also published on Prague EPS Young Minds website and printed it on the posters located at several universities. Our aim is also present these results to management, departments and student union of the faculty. The survey will serve as a feedback and help improve the current status of various study programmes.

The survey and gathering data will continue in the next semester with possible enlargement of number of interesting additional questions. We would like to increase statistics of the results by addressing more respondents focusing more on graduates.