



# Fyziklani2023

## Fyziklani Competition

Fyziklani is a physics team competition for upper secondary students interested in physics and in solving interesting problems. Teams consist of a maximum of 5 students attending at most 2 different schools. Teams try to solve as many problems as possible within the 3-hour time limit. Each team receives the same seven starting questions at the onset and receives a new problem for every correctly solved one, with the difficulty of the problems increasing as teams progress through the competition.

The competition is open to all upper secondary students (and eager younger students). The problems are translated into English; therefore, the competition is open for teams from outside of Czechia and Slovakia.

## Competition organizers

The competition is declared by the Faculty of Mathematics and Physics of the Charles University (FMP CU) and run under the aegis of the Ministry of Education, Youth and Sports of the Czech Republic. The organizers are mostly students of the FMP CU assembled within the student group FYKOS and have plenty of experience organizing similar events. FYKOS also organizes an online version of the competition (Physics Brawl Online), physics-oriented camps for the most successful participants in the FYKOS competition, trips to physics research labs, and many other events.

## Date and place

The next, 17th, year of the competition Fyziklani will take place on February 10, 2023 in PVA Expo Praha. Apart from the competition, FMP CU and FYKOS organize a rich program of physics-related activities. Competitors and teachers can look forward to visits to research labs, popular science and technical lectures, a trip around Prague focused on places connected to famous physicists, and much more.

## Rules of the competition

The competition lasts 3 hours. There are no qualifiers and competition is open to all high-school students. The competition is designed to cater for both advanced teams and beginners. This is achieved through a game system where each team starts with the same set of 7 easy problems and receives another, more challenging problem, for each correctly solved one. Therefore, at no time will weaker teams need to work on unsuitably difficult problems and, at the same time, strong teams will quickly progress to more demanding problems to match their ability.

Teams can use any literature, textbooks, constants and formulae handbooks or any written notes from school, but all electronic devices are forbidden except for calculators (all types of calculators are allowed).

## History of Fyziklani

The first Fyziklani took place in 2006. It originated as a Czech alternative to the competition Fyzikálny Náboj organised by a Slovak competition FKS. From its beginning, Fyziklani has been organized by FYKOS and FMP CU.

The first notable change occurred in 2013 when the competition was split into 3 categories roughly by the average age of team members. This system is still in use today. The details of this split are described in the Competition Rules. Another significant change happened in 2016. Up until then, the competition took place in FMP CU in Karlov, Prague. An increasing interest in the competition forced the organizers to increase capacity and so the competition for Category A took place in a different building of FMP CU in Malá Strana, Prague. Another change of the venue took place in 2018 when the competition outgrew the spaces in Malá Strana and Category A moved to the conference rooms in Hotel Duo.

Further development came when the competition was extended with an English translation to allow foreign teams to compete (that is outside of Czech and Slovak Republic). This happened in 2018 when the first three English-speaking teams participated. Since then, the number of foreign teams has grown even more. In the years 2019 and 2020, all categories competed in the congress centre of Top Hotel Prague, as we reached almost 1 000 participants.

In 2021, due to the COVID-19 pandemic, the competition was held online. The competition has enlarged significantly and the interest is very high despite the pandemic situation in the last years. In 2023 there will be a competition held in PVA Expo Praha for the second time where all Categories could participate together. We expect more foreign participants to come.

## Participants of Fyziklani

Competitors are primarily upper secondary students (ISCED level 3), in the final 4 years before university, with approximately even distribution between the 4 years. A smaller group of participants are students of the final years of lower secondary education, corresponding to ages 13 to 15.

The total number of competitors has been rising rapidly in the last few years, as shown in the chart below. The number surpassed 500 in 2016, in the year 2020, 974 participants took part (in 2021, 1 916 high school students from a total of 36 countries took part online). In the last year despite the pandemic situation, 776 participants attended. Therefore, we expect a rise in the number of participants for next year. In the last year also 13 foreign teams competed in Prague, some of them took part in program Fyziklani International supported by program Erasmus+.

## **Why support Fyziklani?**

Fyziklani is a physics competition for upper secondary students interested in learning more than what school can offer them, in gaining a deeper understanding of the world around them, and in solving challenging and unusual problems.

Fyziklani is an excellent opportunity to meet many like-minded people and build new friendships. It is also an opportunity for the students to test their skills on problems which are more difficult than those typically seen in class, and to compare their ability amongst each other. As a result, competitors get feedback which helps them improve themselves.

Our world is currently facing a shortage of students interested in natural sciences and technology, even though scientific and technological progress requires more and more people in these fields. Our goal is to adequately prepare students for universities so that they can go on to careers in science or industry. Problem-solving skills and logical thinking are in high demand and experience with physics can help people bring these into everyday life or the work environment.

## **What is in it for you?**

Associating your brand with Fyziklani yields many benefits. Fyziklani is a successful international competition, attended by students from several countries, especially from the Czech Republic and Slovakia. With almost 1 000 participants, and many other people, including the participants' teachers and university students helping to run the competition, it is an excellent opportunity for your promotion. By being a sponsor of Fyziklani, you'll support students that are on the best way to become successful not only in physics but in any field that requires analytical thinking, ability to solve intricate problems and work effectively in a team. You'll be supporting students that are the future of our society.

Our participants are motivated students, and it is essential to make use of this motivation, work with it and develop it further for their personal growth. That is what we are doing in FYKOS and Fyziklani is one of the key tools.

## What do we offer?

- **Listing your company among the competition partners.**

We will publish your logo as a partner on our website, in promotional posters, organizers' T-shirts, brochures of problem solutions, or on the cover of the FYKOS yearbook. We will also officially introduce you during the opening ceremony of the competition.
- **Placing your promotional leaflet in paper folders with task assignments.**

Each team will receive a paper folder with task assignments, contest instructions, rules, and several advertising flyers. This is an effective way of promotion since every team comes into direct contact with your materials.
- **Exhibition of your advertising banner in the competition area.**

Your banner will be visible throughout the competition at the entrance to the hall or directly inside.
- **Promotion stall before the competition.**

Very effective promotion of your company is a stall, which can be available to you during the registration of teams. It allows you to personally address the contestants or their pedagogical accompaniment and tell them much more than is possible through a paper flier.
- **Presentation of your company before the results announcement.**

Before the final ceremony in which we announce results, you can present your company to the participants of the competition in the form of a short presentation (about 5 minutes).
- **The option to offer discounts and deals to participants.**

You can give tickets, coupons or vouchers to each participant, organizer and teacher. These vouchers can contain benefits or discounts. They will receive the coupons alongside the information for the competition at the beginning of the day. Students often enjoy attractive discounts or special offers, and they remember the company and often return.
- **Task in the competition**

A task in the competition, for the participants to solve, which will contain the name of your company, connecting your brand with the highly memorable experience of Fyziklani.