

# Regulations for the SYPT 2017

## 1. Swiss Young Physicists' Tournament

The **Swiss Young Physicists' Tournament** (SYPT) is a physics competition for students in secondary school. Participants are challenged to prepare a theoretical and experimental solution to a complex problem and to present and defend their solution in a debate (Physics Fight) against the opposing team's scrutiny.

The SYPT takes place on two consecutive days (e.g. Saturday and Sunday) before the International Young Physicists' Tournament (IYPT) of the same year (i.e. usually between March and May). The tournament is organized by the association Pro IYPT-CH.

In order to facilitate preparation for students wishing to participate at the SYPT, Pro IYPT-CH organizes the **SYPT Physics Week**. The SYPT Physics Week is a week-long preparation course during which participants can conduct measurements and learn the basic skills required at the SYPT.

The **problems** for the SYPT are identical to the ones at the IYPT. However, due to organizational reasons, Pro IYPT-CH might offer preparation courses only to a selection of the problems during the SYPT Physics Week. The problems are published on [www.iypt.org](http://www.iypt.org) and on [www.sypt.ch](http://www.sypt.ch) at least four months before the SYPT.

## 2. Website

Important information (deadlines, problems, results, etc.) about the SYPT and the Swiss team at the IYPT are published on the SYPT website ([www.sypt.ch](http://www.sypt.ch)).

## 3. Preregistration and Application

The final deadline for registration is published on the website at least two months in advance. This date applies both for students wishing to participate at the SYPT and the SYPT physics week as well as for students who only wish to participate at the SYPT.

There are two possible ways to apply. In any case the deadline published on the website apply:

- School teams: Any secondary school (including international schools, private schools and others) in Switzerland can nominate one or several **teams of three students**. In exceptional the organizer may allow teams of two students.
- Individual participants: The organizer will try to match students applying as **individuals** with other students to form teams of three students.

Every student in a team has to present the solution to a different problem.

## 4. Fees

The participation at the SYPT and SYPT physics week is **free**. The costs for train tickets (only "Halbtax"), food and if necessary accommodation are covered by the organizer and/or the host in accordance with the "Spesenreglement" of Pro IYPT-CH. Requests for reimbursements must be handed in through a form available on the website.

Pro IYPT-CH has a limited budget for experimental equipment. Please contact the president in due time if you would like to benefit from financial support. The exact procedure is defined by the "Beschaffungsreglement" of Pro IYPT-CH.

## 5. Preparation

Pro IYPT-CH organizes the SYPT Physics Week during which students receive coaching and can prepare for the tournament.

In addition, Pro IYPT-CH seeks the support of **universities and research institutes** (e.g. ETH, Empa, etc.) in order to allow the students to use adequate experimental equipment where the schools cannot provide this or to get in contact with experts in the respective field.

## 6. Fight Plan

All teams participate in three rounds of **preliminary Physics Fights**. The fight plan is published two weeks before the start of the SYPT. Every student in a team takes the role of Reporter, Opponent and Reviewer exactly once. The Physics Fights are **in English**.

## 7. Physics Fight regulations

### 7.1. Stages and Time Schedule

At the start of a round the jury members and the teams briefly introduce themselves.

A Physics Fight with three teams is divided into three stages. In each stage the roles of the **Reporter**, **Opponent** and **Reviewer** are assigned according to the table below. If there are teams with more or less than three students or Physics Fights with more or less than three teams, similar schemes apply.

| <b>Physics Fight with three teams</b> |          |          |          |
|---------------------------------------|----------|----------|----------|
| <b>Stage</b>                          | <b>1</b> | <b>2</b> | <b>3</b> |
| <b>Team 1</b>                         | Rep      | Rev      | Opp      |
| <b>Team 2</b>                         | Opp      | Rep      | Rev      |
| <b>Team 3</b>                         | Rev      | Opp      | Rep      |

The tasks for the three students actively involved in a fight are as follows:

- The **Reporter** presents his/her solution for the selected problem. The solution is expected to cover at least an important aspect of the problem with a theoretical model and experimental results verifying this model. The solution should be understandable for a secondary school student.
- The **Opponent** asks clarifying and critical questions and points out possible shortcomings and mistakes in the solution presented by the Reporter. She/he shows the presentation's strengths and weaknesses. The discussion has to be based on the solution presented by the Reporter (not on the Opponent's). A good Opponent should lead the discussion in a way that both participants can learn something new.
- The **Reviewer** comments on the performances of both Reporter and Opponent.

The Physics Fight follows a strict timetable (see table below). After the time reserved for a phase has been used up no new thought may be added. If the preparation time is exceeded, the time for the next phase is shortened accordingly.

| <b>Phase</b>   | <b>Time (total 45')</b> |
|--|-------------------------|
| Presentation of the Reporter                         | 12'                     |
| Clarifying questions of the Opponent to the Reporter | 2'                      |
| Preparation of the Opponent                          | 3'                      |



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|---|-----|
| Review of the presentation (maximum 5') and discussion between Opponent and Re- | 11' |
| Summary of the discussion by the Opponent                                       | 1'  |
| Questions of the Reviewer to the Reporter and the Opponent                      | 3'  |
| Preparation of the Reviewer   | 2'  |
| Review of the performances of the Reporter and the Opponent by the Reviewer     | 4'  |
| Concluding remarks of the Reporter  | 2'  |
| Questions of the jury to all three teams  | 5'  |

## 7.2. Team work and aids

During a Physics Fight the team members are allowed to communicate with each other. Support from outside the team (e.g. from their physics teacher) is strictly forbidden. The use of internet during a fight is strictly forbidden.

During every stage of a Physics Fight there is only one active participant per team. The other team members are allowed to help with short comments or give technical support).

## 8. Jury

The Jury is organized by Pro IYPT-CH. There are at least three jurors in every Physics Fight of which one acts as chairperson and ensures that the SYPT regulations are obeyed

At the end of every stage the jury assesses the performances and every juror shows marks from 1 to 10 for each of the teams involved in the stage. The **score** for a team corresponds to the weighted average (highest and lowest mark with 50 %, all others with 100 %) multiplied by 3 (Reporter), 2 (Opponent) and 1 (Reviewer).

## 9. Ranking

The grades of each fight are used to make a team and an individual ranking. Participants are only ranked on the individual ranking according to article 12. Both rankings will be published.

## 10. Final Fight

The three teams with the **highest total score** after three rounds qualify for the **Final Fight**. In case of two teams in third place with the same total score the more balanced individual scores are preferred. In the Final Fight the third team after three rounds presents first, the first team last.

Within thirty minutes after announcing the participants of the Final Fight, the teams notify the organizer of their favourite problem. If two teams intend to present the same problem, the better-placed team has higher priority. The accepted problems are announced immediately.

The Final Fight follows the same regulations as the normal Physics Fights. Every team member has to be on stage in at least one role. In a team of two the reporter may be on stage only once.

## 11. Team qualification

The organizer (in cooperation with the jury) invites up to nine (in exceptional cases ten) participants (SYPT champion and up to six or seven more) for the team qualification where the Swiss team for the IYPT is selected.

Only participants who can be ranked on the individual ranking according to article 12 are eligible to

participate at the team qualification.

## 12. Absence of a team member

In case one or more team members are unexpectedly unable to attend the SYPT the team must inform the organizers immediately.

The team is expected to perform the roles of the missing team members. The grades the remaining team members receive in these stages count as follows:

- The grades in the opposition count 25% and the grades in the review count 50% for the team ranking. The grades in the report do not count for the team ranking.
- The other fractions (75% opposition, 50% review) are made up out of the average grades the present team members received in their originally planned stage. The weighted average of these marks is then counted as the final grade for the team ranking.
- The grades in these stages do not influence the individual ranking.

In case a team is reduced to only one team member, the remaining team member may find one additional helper who is eligible to participate at the SYPT and is not active in another fight. The helper is not allowed to take a role on stage. The organizers then must be informed immediately.

A participant must perform at least one report and one opposition in the three preliminary physics fights, in order to be ranked on the individual ranking.

## 13. Disciplinary action and Violations of Regulations

Participants or teams that violate the SYPT regulations can be sanctioned by a point deduction of up to 10 points per participant or disqualification.

All participants must behave in an appropriate manner. Unfair behavior can lead to point deduction of up to 10 points per participant or disqualification.

The final decision on any possible sanctions is taken by Pro IYPT-CH.

## 14. Appeal

In case one or several participant or juror feels an action or behavior of an individual or group does not comply with the SYPT regulations, he or she may choose to report this. The procedure is as follows:

**For incidents not concerning grading:**

- For incidents that occurred during a fight round:  
The incident must first be reported to the chair of the jury. In case the matter cannot be resolved the incident may be reported to the organizers. Pro IYPT-CH will decide on further actions or consequences.
- For incidents that occurred outside a fight room:  
The incident must be reported to the organizers. Pro IYPT-CH will decide on further actions or consequences.

**For incidents concerning grading:**

- The incident must be reported to the organizers no later than one hour after the respective fight round finished. The report must include a justification why the grading should be reconsidered. Pro IYPT-CH will then make a final decision. Pro IYPT-CH will in any case justify its decision towards the involved parties.

**Note:** A retrospective change of a grade or its weighting will only be considered in extreme cases. Due to organizational reasons any change of grades will only influence the individual ranking.

## **15. Responsibilities**

The regulations have been approved by the association Pro IYPT-CH.

Zurich, 1.12.2017