



# INTERNATIONAL YOUNG PHYSICISTS' TOURNAMENT

Rämistrasse 54, 8001 Zurich, Switzerland



## Regulations of the International Young Physicists' Tournament

The International Young Physicists' Tournament (IYPT) is a team competition for secondary school students, carried out annually between June and August. The IYPT competition consists of five Physics Fights (PFs) and the Final, where teams present and discuss their solutions to previously announced IYPT Problems. The competition is enriched by a cultural program, science based lectures and excursions.

This document shall be understood in the context of IYPT Statutes and the International Organising Committee (IOC) and the Executive Committee (EC) governing decisions.

### I. Problems in the IYPT

Every year, 17 problems are formulated and approved by the IOC. They are open-ended inquiry problems, requiring both theoretical and experimental investigation.

If these problems are used outside of IYPT, IYPT must be acknowledged.

The detailed procedure of problem selection is stipulated by the EC.

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## II. Participation in the IYPT

### 1. The Teams:

- a. Each IYPT Member Organisation (IMO) can nominate one team to participate in the IYPT competition.
- b. An organisation from a country which is not represented by an IMO can nominate a team, subject to approval by the EC.

### 2. Team Composition:

- a. A team consists of three to five secondary school students. Secondary school graduates can participate in the year of their graduation. Team composition cannot be changed during the tournament.
- b. The participants must be either citizens of the country they are representing or enrolled in schools in the country they represent.
- c. Each country's team is led by a student Captain.

### 3. Team Leaders:

- a. Teams are accompanied by one or two Team Leaders (TL).
  - b. If a team is accompanied by two TLs, at least one of them must be registered as a possible member of the Jury.
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## III. The Jury

- a. The Jury is nominated and organised by the EC.
  - b. It consists, if possible, of at least five members from different countries.
  - c. The detailed procedures related to the Jury are stipulated by the EC.
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## IV. Physics Fight

The IYPT consists of five selective Physics Fights (PF) and a Final PF. In each PF three or four teams compete in a structured scientific debate where they report on, oppose, and review solutions to the current year's IYPT Problems. Teams are assigned to selective PFs based on drawing of lots.

### 1. Structure of a PF

Each PF consists of three (or four) stages, during which teams take turns performing one of the following roles:

- a. Reporter: presents their solution and engages in subsequent scientific discussions.
- b. Opponent: evaluates and challenges the report and engages in scientific discussions.
- c. Reviewer: evaluates the performances of both the Reporter and the Opponent.
- d. Observer (in four-team PFs only): does not actively participate in the stage.

Teams rotate through these roles in a predetermined order, drawn by lots. The rotation is structured as follows: (Observer) → Reviewer → Opponent → Reporter → (Observer) → etc.

The participation of team members is restricted as follows:

- e. Only one member of a team takes the floor as a Reporter, Opponent, or Reviewer in each stage. Other members may make brief remarks or assist with technical aspects of the presentation.
- f. During a PF, each team member can only take the floor at most twice.
- g. In the whole tournament, Final excluded, each team member cannot act as a reporter more than three times.
- h. In the Final, each team member may take the floor only once.

During a stage, teams can only interact with other participants of that PF; no outside or wireless communication is allowed.

### 2. Structure of a PF stage



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Each stage in a PF is structured. Teams must perform the following steps in the specified order within the prescribed time. The maximum time allocation for each step is defined in the table below:

Step within the Physics Match	Max time in minutes
The Opponent challenges the Reporter for the problem	1
The Reporter accepts or rejects the challenge	1
Preparation of the Reporter	4/1*
Presentation of the report	12
Questions of the Opponent to the Reporter and answers of the Reporter	2
Preparation of the Opponent	3
The Opponent takes the floor for a maximum of 4 min., and a discussion between the Reporter and the Opponent follows.	14
The Opponent summarises the discussion	1
Questions of the Reviewer to the Reporter and the Opponent and answers to the questions	3
Preparation of the Reviewer	2
The Reviewer takes the floor	5
Concluding remarks of the Reporter	2
Questions of the Jury	5

\* 4 minutes for PF 1 to PF 4, 1 minute for PF 5 and the Final.

There are specific rules that apply to certain steps of the stage:

## a. Problem Challenge

The Opponent cannot challenge problems that:

- Have already been presented in the same PF.
- Have already been rejected by the Reporter.
- Have already been presented by the Reporter.
- Have already been opposed by the Opponent.
- Have already been presented by the Opponent.



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If fewer than five problems remain available, restrictions v and iv are successively lifted.

## **b. Problem Rejection**

The Reporter may reject up to five problems without penalty throughout the entire tournament. Any further rejections result in a reduction of the Reporter's score coefficient by 0.2. This reduction applies in the current and following PFs, excluding the Final. The maximum number of problems a team can reject throughout the tournament is eight.

## **c. Problem Selection in the 5th and Final PF**

The structure of a stage in the 5th PF and the Final PF is the same as in other PFs, with the exception that in these PFs, the steps "The Opponent challenges the Reporter for the problem" and "The Reporter accepts or rejects the challenge" are omitted. Teams choose the problem they will present. In PF 5 teams may not select a problem they have already presented in the previous PFs. In the Final PF teams may not select a problem they have presented in the PF 5. The detailed procedure for this selection is stipulated by the Executive Committee (EC).

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## **V. Grading and Ranking**

After every stage, each Juror scores the teams with a mark from 1 (lowest) to 10 (Highest). One highest and one lowest mark are replaced by a single mark equal to their average. The team's mark for the role is the average of the marks, multiplied by the corresponding role coefficient.

Role coefficients are:

- a. Reporter: 3.0, or lower, as defined in section IV./2b,
- b. Opponent: 2.0,
- c. Reviewer: 1.0.

The sum of points (SP) is the total score a team earns in a single PF. Total Score in the Tournament (TSP) is the sum of SP scores across all PFs. Fight Wins (FW) is the number of PFs in which a team had the highest SP score among all teams competing in that PF.

All teams are ranked based on their TSP and in case of equal TSP, FW is used.

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## VI. The Final

The top three teams in TSP ranking advance to the Final Physics Fight. If teams win all their PFs but do not reach the Final by ranking, the highest ranked also qualifies making a four team Final.

The order of presentation in the Final is determined by TSP ranking: the lowest ranked team starts as a reporter, the second lowest as an opponent etc.

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## VII. Awards and Certificates

- a. The team with the highest SP in the Final wins the tournament and is awarded the IYPT winners' cup. If teams have the same SP in the Final, the winner is determined according to the highest TSP, in case of equality by FW.
- b. All teams participating in the final are awarded gold medals.
- c. The highest scoring teams not participating in the finals are awarded silver medals; these are awarded to the 15 % (rounded up) of all participating teams.
- d. Bronze medals are awarded to all other teams finishing in the top half (rounded up).
- e. All teams not receiving medals placed in the top 75 % (rounded up) of all participating teams receive an Honourable Mention award.
- f. All other teams receive certificates of participation.
- g. Team members and leaders obtain a certificate indicating their award.

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## VIII. Miscellaneous

All aspects of the IYPT competition not governed by these Regulations can be further specified by decisions of the EC.

Breaches of Regulations are handled according to the procedures stipulated by the EC.