

Statutes of International Olympiad on Astronomy and Astrophysics

#1

In recognition of the growing significance of astronomy and related subjects in all fields of Science and Technology, including the general education of young people, and with the aim of enhancing the development of international contacts between different countries in the field of school education in astronomy and astrophysics, an annual competition in these subjects has been organised for high school students; the competition is called the “International Olympiad on Astronomy and Astrophysics” (IOAA). The International Olympiad on Astronomy and Astrophysics should be organised during July – December.

#2

The competition is organised in one of the participating countries on whose territory the competition is to be conducted. Participation in the IOAA is restricted to teams from countries or territories with National Olympic Committees, duly recognised by the International Olympic Committee. By choosing to participate, the teams agree to abide by the Statutes of the IOAA and the decisions of the IOAA board, and appropriate international legal and diplomatic agreements. In the event of a dispute regarding the official name of a participating team, the name recognised by the International Olympic Committee will be used.

The organising country is obliged to ensure equal participation of all delegations, and to invite all the participants of any of the latest three competitions. Additionally, it has the right to invite other countries.

The International Olympiad on Astronomy and Astrophysics is a purely educational event. No country may have its team excluded from participation by the organisers on any political grounds such as those resulting from political tension, lack of diplomatic relations, lack of recognition by the government of the organising country, imposed embargo or similar reasons. If such difficulties preclude formal invitation of an official team representing a country, students from such a country should if possible be invited to participate as individuals.

The competition is conducted in a friendly atmosphere designed to promote future collaborations and to encourage friendships in the scientific community. To that effect any tensions between the participating countries should not be reflected in any activity during the

competition. Any political or religious activity directed against any individuals or countries is strictly prohibited. A country that violates this rule may be barred from participation.

Within five years of its entry in the competition a country should declare its intention to be the host for a future Olympiad. This declaration should propose a timetable so that a provisional list of the order of countries willing to host Olympiads can be compiled. A country that refuses to organise the competition may be barred from participation, even if delegations from that country have taken part in previous competitions.

#3

The competition is organised by the Ministry of Education or other appropriate institution of one of the participating countries. Hereunder, the term “Ministry of Education” is used in the above meaning.

The Ministries of Education of the participating countries, as a rule, assign the organisation, preparation and execution of the competition to a scientific society or other institution in the organising country. The Ministry of Education of the organising country notifies the Ministries of Education of the participating countries of the name and address of the institution assigned to organise the competition.

#4

Each participating country may send one regular team of contestants consisting of no more than 5 students, selected through a fair and representative process. The members of the team can be high school students or students who finish their high school in the year of the competition. The age of the contestants must be less than twenty years on July 1st of the year of the competition.

In addition to the students, each country sends up to two accompanying adults (referred to as “team leaders”). Teams with 4 or 5 students can include two team leaders. Teams with 2 or 3 students can include only one team leader. Any team with only one student and one team leader cannot be classified as an official team but can still participate as a guest team (see statute 6). No students may participate without at least one team leader accompanying the team.

The team leaders must be selected from persons such as scientists or teachers who are themselves capable of solving, discussing and translating the problems of the competition competently, and who should be able to communicate in English.

The team leaders each become equal and independent members of the International Board. Members of the International Board are treated as the representative contact persons for the participating countries concerning the affairs of the International Olympiad on Astronomy and Astrophysics.

Each participating team should provide the organisers with a list containing the contestants' personal data (full name, date of birth, home address and address of the school attended) and certificates (in English) from the schools confirming the contestants' attendance or graduation in the year of the competition.

#5

If a regular participating country is unable to send a team in person in a certain year, for example due to travel restrictions resulting from exceptional circumstances, it may apply to the IOAA EC and organisers to be allowed to participate remotely. A remote team must meet the same criteria as a regular team and should be registered in the same manner. The team leaders will be considered members of the International Board and may participate in all discussions and votes. They will be responsible for isolating their team members, maintaining secrecy of the questions and translation. The method of distributing questions and marking or moderating student answers will be agreed prior to the Olympiad between the remotely participating countries, the organisers and the IOAA EC.

Contestants participating remotely will be classified in the same way as regular teams except that their marks will not be used in the calculation of medal boundaries. They may receive diplomas, however they should be identified as "Online" in all official documents and listed separately. There is no obligation for the organisers to provide physical prizes or physical medals for remote teams.

#6

The organising country may accept in-person guest teams in addition to the regular teams (no more than one guest team per country). A guest team must meet the same criteria as a regular team and should be registered in the same manner. However, team leaders of guest teams are not members of the International Board and do not vote. Except for that, their duties are the same as those of the leaders of the regular teams, including participating in moderation.

Participation of a guest team always needs approval from the organising country. The country sending a guest team pays all the expenses arising from its participation. The next organisers are not obliged to invite guest teams present at the previous competition. Countries present with guest teams only are not obliged to organise the IOAA in the future.

Remote guest teams may only be allowed, if the regular team is also participating remotely, and that too at the discretion of the organisers and IOAA EC.

Contestants from guest teams and guest teams are classified in the same way as regular teams, except that their marks will not be used in the calculation of medal boundaries. They may receive diplomas and prizes, their names should be identified with the letter “G” (“Guest”) in all official documents.

#7

The working language of the International Olympiad in Astronomy and Astrophysics is English. Competition problems and their solutions should be prepared in English; the organisers, however, may prepare those documents in other languages as well.

#8

The financial principles of the organisation of the competition are as follows:

- The Ministry which sends the students to the competition covers the round trip travel expenses of the students and the accompanying persons to the place where the competition is held.
- From the year 2025 onwards, each participating team will be required to pay a participation fee, which is expected to be covered by the ministry which sends the students to the competition. The quantum of fee is defined in regulations.
- The Ministry of the organising country covers all other costs from the moment of arrival until the moment of departure. In particular, this concerns the costs for board and lodging for the students and the accompanying persons, the costs of excursions, awards for the winners, etc.

#9

The competition consists of 2 parts: the theoretical competition (including short and long questions) and practical competition (including observations and data analysis). There should normally be 5 short, 5 intermediate length and 2 or 3 long questions for the theoretical part. For the practical part, the organiser may give a set task on 1) observation, 2) paper-based practical problem, 3) computer-based problem, 4) planetarium simulation or combination of the four, which is expected to be solvable in 5 hours. The problems should involve at least four areas mentioned in the Syllabus.

The sequence of the competition days is decided by the organisers of the competition. The time allotted for solving the problems should be a total of five hours for the theoretical part and a total of five hours for all components of the practical part. These competition parts should be

spread over at least four calendar days with at least one free day between first examination and last examination. The duration of the Olympiad (including the arrival and departure days) should normally be 10 days.

When solving the problems the contestants may use drawing materials and non-programmable pocket calculators without graphics, which are brought by the contestants themselves. Collections of formulae from mathematics, chemistry, physics, etc., are not allowed.

#10

The competition tasks are prepared by the host country. The host country has to prepare at least: 2 short, 2 intermediate length, 1 long theoretical and 1 data analysis and 1 observational spare problems. They will be shown to the International Board only if some of the originally presented problems are rejected by two thirds of members of the International Board. The rejected problem cannot be reconsidered.

The host country may ask for and consider suggestions for questions from the members of the International Board. Any members of the International Board supplying such suggestions do so in strict confidence and on the understanding that they will not be disclosed to the students prior to the competition.

#11

The theoretical part makes 50 % of the total mark, and the practical part 50 % (25% data analysis and 25% observation) of the total mark. The practical solutions should consist of theoretical analysis (plan and discussion) and practical execution. The solution to each problem should contain an answer and its complete justification.

#12

The individual participants will receive certificates and medals or honourable mentions in accordance with the criteria below:

- The reference score M is defined as the lower of 50% of the absolute score, and the median total score of all the contestants.
- With the contestants' scores ranked in descending order, the 1 score immediately above and 3 consecutive scores immediately below the reference score M will be examined. Among these scores, those two consecutive scores will be identified which have the

largest absolute difference. From these two scores, the higher one will be taken as the lowest-scoring Bronze medal score.

- Similarly, for the Silver medal, the 1 score above and 3 scores below 1.3M will be examined and the lowest-scoring silver medal score will be taken as the higher score among those two consecutive scores which have the largest absolute difference.
- Similarly, for the Gold medal, the 1 score above and 3 scores below 1.6M will be examined and the lowest-scoring gold medal score will be taken as the higher score among those two consecutive scores which have the largest absolute difference.
- For honourable mention certificates, the reference score as defined above will be determined separately for the theoretical (M_T) and practical (M_P) parts and similarly adjusted for the largest difference. Any participant who has not been awarded a medal, but whose score in either one of these parts is at or above the respective adjusted score (M_T or M_P), will receive an honourable mention certificate.
- The participant who obtains the highest score (the Overall Winner) will receive a special prize and a certificate.
- The two participants with the highest score in each of the Theoretical part and Practical part will each receive special certificates and may be given additional prizes.
- The remaining participants will receive certificates of participation.
- Other special prizes may be awarded at the discretion of the organiser.
- In the event of a large imbalance in the medal counts, the organisers may propose a temporary adjustment of either or both of the factors 1.3 and 1.6 *with adequate justification*. Only the organisers may propose the adjustment and the proposed values may not be modified by the International Board. Acceptance of the adjusted factors requires a qualified majority of the International Board in favour, in the same manner as a statute change, and it does not create a precedent for later Olympiads.

#13

To encourage cooperation between the participants from different countries, each IOAA will also include a event for international teams, classified separately from the main competition, organised according to the following rules:

- Each team should consist of at least 5 students with each team member from a different country. Selection of team members should, where possible, be randomized.

- For judging the best international team, a task which is to be performed by the team as a whole will be designed. This task may contain theoretical, practical or observational aspects or any combination thereof. The host country will be free to decide which option to use or propose a different format in consultation with the Secretariat of the IOAA.
- The organizers shall prepare an award for the best international team.
- The principles by which any remote teams may participate in the team competition will be agreed between the organisers, IOAA EC, and the remote teams, including (if necessary) setting a different task or waiving the requirement to form international teams. Remote teams undertaking the team competition will be classified separately from in-person teams, and there is no obligation for the organisers to provide physical prizes or physical medals.

#14

The obligations of the organiser:

- The organiser is obliged to ensure that the competition is organised in accordance with the Statutes.
- The organiser should produce a set of "Organisation Rules", based on the Statutes, and send them to the participating countries in good time. These Organisation Rules shall give details of the Olympiad not covered in the Statutes, and give names and addresses of the institutions and persons responsible for the Olympiad.
- The organiser establishes a precise program for the competition (schedule for the contestants and the accompanying persons, program of excursions, etc.), which is sent to the participating countries in advance.
- The organiser should check immediately after the arrival of each delegation whether its contestants meet the conditions of the competitions.
- The organiser chooses (according to the Syllabus) the problems and ensures their proper formulation in English and in other languages set out in # 6. It is advisable to select problems where the solutions require a certain creative capability and a considerable level of knowledge. Everyone taking part in the preparation of the competition problems is obliged to preserve complete secrecy.
- The organiser must provide the teams with guides.
- The organiser should provide the delegation leaders with Photostat copies of the solutions of the contestants in their delegation at least 24 hours before the moderation.

- The organiser is responsible for organising the grading of the problem solutions and moderation.
- The organiser drafts a list of participants proposed as winners of the prizes and honorable mentions.
- The organiser prepares the prizes (diplomas and medals), honorable mentions and awards for the winners of the competition.
- The organiser is obliged to publish the proceedings (in English) of the Olympiad. Each of the participants of the competition (delegation heads, pedagogical leaders and contestants) should receive one copy of the proceedings free of charge not later than one year after the competition.

#15

For the duration of the event, the International Board is chaired by a representative of the organising country. He/she is responsible for the preparation of the competition and serves on the Board in addition to the accompanying persons of the respective teams.

All decisions, except those described separately, are passed by a majority of votes. In the case of an equal number of votes for and against, the chairman has the casting vote.

#16

The delegation leaders are responsible for the proper translation of the problems from English (or other languages mentioned in # 6) to the mother tongue of the participants.

#17

The International Board has the following responsibilities:

- To direct and supervise the competition to ensure that it is conducted according to the regulations.
- To discuss the organisers' choice of tasks, their solutions and the suggested evaluation guidelines before each day of the competition. The Board can change or reject suggested tasks but cannot propose new ones. Changes may not affect practical equipment. There will be a final decision on the formulation of tasks and on the evaluation guidelines. The participants in the meeting of the International Board are bound to preserve secrecy concerning the tasks and to be of no assistance to any of the contestants.
- To ensure correct and just classification of the prize winners.

- To establish the winners of the competition and make decisions concerning the presentation of prizes and honorable mentions. The decision of the International Board is final.
- To review the results of the competition.
- To select the country which will be the organiser of the next competition.
- The International Board is the only body that can make decisions on barring countries from participation in the International Olympiad in Astronomy and Astrophysics for the violation of these Statutes.
- The term of the international board is defined to be from the start of one competition till the start of the next competition.
- Individual members may choose to opt out of the international board, by nominating their replacement from the same country. Requests for such replacements may be approved by IOAA EC after due consideration.
- From the time of conclusion of one IOAA till the start of the next IOAA, the international board is chaired by the IOAA president.
- IOAA EC members are ex-officio members of the international board.

Observers may be present at meetings of the International Board, but may not vote or take part in the discussions.

#18

The institution in charge of the Olympiad announces the results and presents the awards and diplomas to the winners at an official ceremony. It invites representatives of the organising Ministry and scientific institutions to the closing ceremony of the competition.

#19

The long term work involved in organising the Olympiads is coordinated by a “**Executive Council for the International Olympiad in Astronomy and Astrophysics**”. This Executive Council consists of the President, General Secretary, two elected councilors and one nominated councilor. All council members, except the nominated councilor, are elected by the International Board for a period of five years when the chairs become vacant. The nominated councilor is unanimously chosen by the remaining four members of the incoming executive council and has a term concurrent with the rest of the Executive council. Through the election or through the nomination, the EC must strive to achieve diversity in gender, ethnicity and geography.

No individual can be a part of the IOAA council for more than three terms. No two members of the IOAA council can belong to the same country.

The President and General Secretary are members of the International Board in addition to the regular members mentioned in # 4. They are invited to each International Olympiad in Astronomy and Astrophysics at cost (including travel expenses) of the organising country. Prior to each IOAA, the President and General Secretary are also expected to work with the academic committee of the host to ensure the tasks being designed are consistent with the principles as stated in IOAA statutes and syllabus.

The role of elected as well as nominated councilors is to advise IOAA secretary and president in crucial administrative matters as well as act as the academic advisors for the IOAA host countries.

#20

These statutes are supplemented by:

- Regulations concerning the details of the organisation.
- The Syllabus mentioned in #18

#21

Changes in the present Statutes, the insertion of new paragraphs or exclusion of old ones, can only be made by the International Board and requires qualified majority (2/3 of the votes).

Changes in the Supplementary material can be made by the simple majority (½ of the votes).

No changes may be made to these Statutes or Syllabus, unless each delegation obtains written text of the proposal at least 3 months in advance.

#22

Participation in the International Olympiad in Astronomy and Astrophysics signifies acceptance of the present Statutes by the Ministry of Education of the participating country.

#23

The originals of these Statutes are written in English.

Supplementary Materials

The banner of the IOAA is made of blue silk cloth. Embroidered on it, in pink thread are the words "IOAA" in large capital letters. Above the words IOAA, a galaxy with 13 spirals is embroidered in yellow silk thread. On the right side of the galaxy the globe is embroidered in

turquoise thread. Circularly underneath the word IOAA, the words “International Olympiad on Astronomy and Astrophysics” are written with small white letters. The lower oblique sides of the banner are decorated with several white tassels, either sides of the central tassel, which is yellow.

The logo of the IOAA was designed by Dr. Waspodo from Indonesia. It consists of the small letters “ioaa”. All letters are green, except for the second letter, which is a solid orange disc, depicting in the centre, a white spiral with three upper arms and four lower arms. The dot of the first letter is orange.

The basic pattern of the seal of the IOAA is similar to the logo. Circularly around the logo, as described above, the words “INTERNATIONAL OLYMPIAD ON ASTRONOMY AND ASTROPHYSICS” are written with capital letters. A solid dot separates the last letter of the word “ASTROPHYSICS” and the first letter of the word “INTERNATIONAL”.

The anthem of IOAA is the musical work entitled “IRIS”, composed by Vassilis Tassoudis from Greece. It was accepted by the International Board on 8th August 2013 during the 7th IOAA at Volos, Greece. The score of this anthem has been deposited at the IOAA headquarters.

The banner, the logo, the seal and the anthem of the IOAA are collectively or individually referred to as “IOAA properties”.