

IOI Host Guidelines: General Aspects

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Abstract. In this series of papers we accumulate recommendations on various aspects of event preparation, organization and management for the International Olympiad in Informatics (IOI) Host country. Although the IOI has some very specific events, like quarantine, the contest and translation sessions, our recommendations are not limited to only an IOI style event. However the main goal of this series is to distribute best practices for an IOI. Part I of this publication covers general aspects of an IOI and parts II and III cover scientific and technical aspects.

Keywords: IOI, programming contest, international event organization and management.

1. Introduction

The International Olympiad in Informatics (IOI) is an annual international informatics competition for individual contestants from various invited countries, accompanied by social and cultural programmes [1:S1.1]. Starting in Bulgaria, 1989, IOI is one of the world's families of scientific Olympiads for secondary schools students, which include the International Olympiads of: Mathematics (since 1959), Physics (since 1967), Chemistry (since 1968) and Biology (since 1990). The IOI has many specific features which distinguish it from other international events:

- The contestants are not adults, which mean that the Host has important specific requirements regarding responsibility, hospitality, security, etc.
- Contestants' scores are evaluated by an automated computer system based on each problem's test data; The IOI problem set and accompanying test data preparation is very time consuming.
- The competition consists of two practical (i.e. not on paper) contests as well as a practice session and requires the use of large and expensive facilities.

The IOI's official site is <http://ioinformatics.org> [1:N3.8.2]. For general information on the IOI we refer readers to the website. We suggest special attention is paid to the following documents:

1. IOI Regulations [1].
2. IOI syllabus [2].
3. International Technical Committee (was ITWG) guidelines [3].

The IOI regulation document is approved by the General Assembly of the IOI. The IOI Regulation [1:S1.2] covers the main principles of the IOI organization. (Note: this document should be considered as best practices guidelines and are not parts of the regulations.) We refer to appropriate sections of the IOI Regulations in the scope of our recommendations. We also use abbreviations from the IOI Regulations, such as GA (General Assembly), IC (International Committee), ISC and HSC (International and Host Scientific Committees), ITC (International Technical Committee; referred to previously as ITWG) and HSTC (Host scientific and technical committee). The Host steering and organization committees are referred to as the Host. The IOI syllabus [2] has been written by the ISC. The ITC/ITWG guidelines [3] have been developed by the ITC/ITWG.

This paper consists of three parts which are not completely independent, as the parts discuss similar subjects. While part I focuses on general aspects, parts II and III specifically outline the scientific and technical elements. Unfortunately, there are very few publications based on the IOI Host's experience. For that we refer you to the excellent online paper of Mirka Jeskanen [4].

We hope that this open access document will help the IOI community and it will be useful for future Hosts to organize future exciting and successful IOIs!

2. Host & IC/ISC/ITC

The IC/ISC/ITC should maintain oversight of the IOI development processes, ensure a consistent quality of the IOI every year, and intervene when issues arise. The Host should maintain some level of autonomy, since the Host puts a lot of effort into preparing an IOI and his/her reputation is at stake. Guidelines should be considered as advice but the Host is free to deviate from them. However, it is highly recommended that the Host informs and consults with the IC/ISC/ITC.

3. Timeline

The following steps, listed chronologically, are crucial in the organization of an IOI:

1. A country applies to the IC to become a Host (generally 3 to 4 years in advance) and is selected as the Candidate future Host [1:S4].
2. After agreeing to abide by the IOI regulations the country is confirmed as the Future Host [1:S5].

3. Beginning preparations, the creation of the Host's official website, the publication of important information and reporting regularly to the IC on progress.
4. The IOI Flag handover ceremony, the selected candidate becomes the Present Host.
5. Sending out the IOI Country Invitations.
6. The organization of the IC/ISC/ITC "February" meetings.
7. Scientific and Technical preparations of the IOI.
8. Opening of the IOI Registration system.
9. Offering visa support where applicable.
10. Publication of the IOI main event and the IOI Conference programmes.
11. Publication of the Competition Rules / Judging Procedures.
12. Publication and distribution of Technical preparation materials.
13. Publication of the practice session tasks.
14. Meeting teams at the airport and other arrival ports.
15. The IOI programme.
16. Transferring teams to the airport.
17. Post-IOI activities.

4. IOI Host Application

Read [1:S4]. The IOI Host team should be both experienced in organizing international events, and have access to qualified specialists for the IOI task and technical preparations. The number of IOI participants from foreign countries should be estimated using growth trends of previous IOIs. At the moment we expect up to 90 countries, about 28 IOI committee members, and up to 100 guests. In total, about 700 participants of which 340 would be contestants. Based on our previous experience, the IOI budget is estimated to be 1 to 2 million US dollars. This figure does not include facilities, which are estimated at about 0.5 to 1 million US dollars. For example, the IOI'14 budget was about \$1.1M US and the facilities were completely covered as a result of sponsorships. The IOI'15 budget was about \$1.6M US, including the purchased facilities. To be selected as the IOI Future Host, the Host Country needs to provide guarantees in terms of the budget allocation, which is usually supported by a Governmental letter. The IOI objectives include that member countries should be willing to host an IOI at some future time [S1.7]. If the application is unsuccessful, it is worthwhile re-submitting for a different year.

5. IOI Future Host Selected

Congratulations! Analyze the regulations and guidelines [1-3]. Although the IOI Host is selected at least 3 years before its respective IOI, preparations should start immediately. Decide on the general model of the IOI Venue, cultural programme, scientific and technical preparations, paperless or not, etc. Prepare a plan, and a backup plan taking into

account all potential risks. Think as a programmer: do not ignore any possible conditions and constraints and be flexible.

- Confirm and sign all the necessary agreements for the allocation of the IOI budget, venues, halls, facilities, etc.
- Find sponsors and decide on the guest fee.
- Design the IOI logo in vector graphics format, IOI badges, banners, certificates/diplomas, goodie bags and contents and medals and trophies. Always produce extra medals, because the exact numbers are unpredictable. The IOI trophy is presented to the overall winner(s) and possibly a Distinguished Service Awardee. Do ensure enough trophies are in hand in case there is a tie at the top.
- Create the IOI Host official website.
- Distribute related information on previous IOIs and urgent information on the Host website by duplicating it from the official IOI website.
- Think about the IOI newsletter and mailing lists.

Consideration may also be given to how you may contribute to the IOI development. This may include new initiatives, new solutions or setting new trends. (Previous examples include the adoption of a 4th task and a live scoreboard.)

6. IOI is an International Event

The IOI is an international event with the overall goal of bringing the world together. To facilitate a great experience for all participants, try to avoid the strict enforcement of Host Country laws that are not commonly enforced on the international level. Inform all relevant security organizations about the event in order to prevent troublesome situations. Prior to the IOI, inform the IOI Community of any possible issue that might occur. If issues do occur, try to resolve them in a friendly manner. Please note that age restrictive laws are different among the IOI Countries and that some contestants might believe that certain laws are not applicable to them. Note that the team leaders are responsible for the contestants, especially for those contestants that are of a valid age to sign documents. In particular, pay special attention to laws and regulations regarding smoking and alcohol consumption.

7. Host Team

Ensure that the organizers have clearly defined roles and responsibilities. Make sure to train the Host team and send a large team to observe other IOIs well in advance to ensure they experience an IOI first hand. [1:S2.6]. Establish good relations with the IOI community and do not hesitate to ask questions. All members of the Host team who are handling communications with foreign participants should be able to communicate fluently in English.

7.1. *Organisational Team*

An IOI Country delegation normally consists of two adults and four contestants. In most host countries there will be a mix of people with many years of experience in the IOI, but also key specialists in organizational work who do not specifically have actual experience with an IOI. Involve and consult the people who have previously participated an IOI. Create Steering and Organizing Committees and an IOI secretariat. Create volunteer selection procedures and select volunteers.

7.2. *HSTC (Host Scientific and Technical Committee)*

It is rare to have experience with an onsite programming competition with 350 contestants, thus it is advised that an IOI is not completely new to members of the HSTC. The HSTC is responsible for the IOI contest which includes specialists in IOI contest preparation as well as engineers of electrical power management, light, ventilation and climate control, etc. Make sure that technical specialists will be on duty during the IOI events, which includes the translation (each of the 2 evenings prior to the 2 competition days), practice, the actual competition days and HSTC competition preparation time. We recommend HSTC members have at least 3 years of experience in the scientific and technical preparations for international programming contests. This experience can be gained through the organization of world or regional programming contests. They should have experience of having run at least one contest before the IOI with more than 300 contestants. Select at least two people for every critical position. Risk management implies not allowing a single technical administrator for any important part of the system. In many previous IOIs less than 10 people of the core HSTC team undertook most of the work. It is preferable to divide the workload equally among more members. The IOI task authors are guest members of the HSTC and may be available to assist with eg: test case preparation.

7.3. *Volunteers*

The IOI Volunteers are also crucial to a successful IOI. They act as team guides, office clerks, persons on duty, event's organizers, technical support staff, etc. Ensure that there are dedicated groups of volunteers for every kind of logistical activity, such as arranging accommodation, transportation, excursions, registration, guest programme, activities, technical support, opening and closing ceremonies, GA meetings, translation sessions, the competition and such. Deploy a coordinator for each of the roles and events. Develop an "internal communication" infrastructure, for pushing information out to guides and volunteers and for sending information back to coordinators as required. Investigate the Host country volunteer organizations and consult and involve them. Distribute the IOI related publications and create a detailed manual for volunteers with contact information. Decide on the volunteer training program and when and how the training will take place.

8. IOI Host Official Web Site

Create the IOI's website and publish important information as required by the IOI Regulation [1] and recommended in various guidelines. Decide on the information by publishing a workflow; this includes visa information, the daily program of the IOI, accommodation information and tourist information for early arrivals. Involve native English copywriters or editors. Plan the long term maintenance of the IOI Host website. Connect to and, if necessary, duplicate urgent information on the IOI official site.

9. IOI Registration System

The IOI Registration system must capture IOI participants' personal data, including names, roles, passport data and arrival/departure information, as well as a photo. Registration data is very important in order to communicate with team leaders and to produce personal badges/certificates/diplomas. The IOI Registration system may generate standard invitation letters, and various reports: list of participants with relevant information, such as arrival/departure information, information on married couples, etc. The IOI Community should be familiar with the registration system, which can be found at <https://ioiregistration.org/> and is managed by Eljakim Schrijvers. Although [1:S3.5] the IOI committee members are not representative of countries, they should be asked to register as part of their country teams. It is good practice to register the complete Host team in the system.

10. Personal Identification at IOI

The IOI participants are usually identified by badges. Using passports for identification is not recommended, as contestants may lose their passports. Design the IOI badge to display participants' country and role as well as their photo. Ensure reasonably quality with regards to the photo when the badge is prepared. If the photo in the registration system needs to be changed, capture a new photo on arrival. Different roles may be differentiated by using different colors. Avoid using country flags and other symbols that may cause political tensions [1:S5.14].

11. IOI Backpack

The IOI backpack should be given to all persons involved in the IOI (e.g. participants, staff and volunteers). Arrange and compile the IOI backpack and contents. Include all necessary (personal) contents in accordance with the planned excursions and events. Usually the IOI backpack contains a personal badge, the IOI programme, t-shirts, a head cap, a pencil and notebook, national souvenirs and possibly sponsors' promotional items. Assign different t-shirt colors to different roles. This helps to easily separate staff, volunteers, leaders, contestants, etc.

12. Invitation and Visa Support

Analyze IOI Regulation [1:N2.7]. Full time staff should be selected to help with invitations and visa support. Carefully study Host Country laws and procedures on migration and visa control, and liaise with related governmental organizations. Prepare all the necessary forms and instructions on how to get a visa and publish concrete information about it on the website. Contact the IOI Community, distribute materials and ask for their requirements. For every IOI Country that need visas, find the relevant consulate and contact the consulate whenever this is asked for by the invited team. Pay special attention to the invitation of new country observers. A standard electronic format of an invitation letter should be generated automatically in the IOI registration system. Usually this is enough for visa free countries. Some countries may request a special format for the invitation letter (e.g. from government authorities) or to extend the dates if the team intends arriving before the official arrival day. The preliminary IOI programme needs to be attached to the invitation letters. For the purchase of visas on arrival, make sure that each delegation knows what relevant forms and the amount of cash (and the currency) they need to bring. If possible, organize that visas are free of charge for the IOI participants.

13. Early Arrival and Late Departure

Decide on the policy of the hosting with regards to early arriving or late departing teams and inform the IOI community as soon as possible. Consider providing an invitation letter for the teams with the listed period of the stay in the Host country. Be ready to follow Host country procedures on migration control and to help the IOI teams on any related issue. Help teams with local accommodation and provide all the necessary information and contacts. Ensure early arriving teams have instructions for being collected from local accommodation as they are not arriving at the expected airports or train stations on Arrivals day.

14. Programme

Analyze the IOI Regulations, as they place some restraints on the IOI programme [1]. The IOI includes two Host events: 1) the IOI committees meetings [1:S5] about half a year before the main event (February meeting); 2) the IOI week. The IOI February meeting usually takes 5 days and the IOI main event takes 8 days, both of which include the arrival and departure days. Although a number of the IOI days are not regulated, we believe that the number of days cannot be reduced. The main purposes of the February meeting is to inspect the Host' preparations and to provide various recommendations to the Host. In short: the IC inspects the organization, the ISC selects the tasks and the ITC inspects the technical preparations. It is good practice to select Sunday to Sunday dates for the IOI week. Below we have listed the main activities for each day of the IOI week:

Day 1: Teams arrive and register.

Day 2: Practice session, opening ceremony, two GA meetings, quarantine and translation.

Day 3: Competition day 1. Clarifications, IOI Conference, analysis/appeals, GA meeting.

Day 4: Excursion day 1. GA meeting, quarantine, and translation.

Day 5: Competition day 2. Clarifications, IOI Conference, analysis/appeals, GA meeting.

Day 6: Excursion day 2.

Day 7: GA meeting, closing ceremony, farewell party.

Day 8: Teams depart.

The competition part of the IOI programme includes 1) A practice session (~2 hours) and two official (5 hours) contests; 2) two translation nights before contests; 3) two question/answer sessions during the official contests; 4) two analysis/appeals sessions after the official contests; 5) the HSTC/ISC/ITC report at the first GA meeting on competition rules, reporting on the practice session at the second GA meeting and two reports at the GA meeting at the end of each of the competition days. The GA report and its approval by the GA on contest day 2 ends the competition part of the IOI.

For the planning of the IOI programme & schedule, take into account:

1. Those different events are not serial and may overlap in terms of time.
2. Early breakfast, late dinner and a cultural programme on the arrivals day. As people may arrive from midnight to midnight and have crossed time zones, providing adequate food that day will set the tone for the IOI.
3. Team leaders and their contestants must be able to meet in order to discuss the competition rules after the post-practice GA and before quarantine [1], and traditionally at the end of competition days behind the competition hall.
4. Quarantine: team leaders and contestants should be physically and virtually separated, so that communications are controlled.
5. That there is enough time allocated for contestants to consume breakfast and to take their seats at the competition days, Allow about half-an-hour for people to be seated.
6. That there is enough time for getting from place to place. Measure the walking times within the IOI venue.
7. Request information on the planning of the IOI Committees meetings, select appropriate times and venues.
8. Free time: plan/recommend events for free time (e.g. short city excursions and open lectures).

15. Competition Rules/Judging Procedures

Analyze IOI Regulations: S5.3, E3.4, E3.15 and S3.2 [1]. The HSTC, ISC and ITC create detailed competition rules and judging procedures to publish on the IOI Host official site. The GA approves them at the first GA meeting. It is good practice to outline the differences, if any, between the current proposal and the rules of previous IOIs.

16. IOI Venue

There are two general models for the IOI venue: a University/Educational campus or a City/Hotel based model. Determine the location and walking distances for the venue including accommodation, competition halls, meeting rooms, ceremony theatres and so on. Ensure that the delegations know the accommodation address(es) and contact information before arrival. Ensure that the organizational and technical services will be continuous during planned IOI events. Analyze recent crime and emergency reports for every IOI proposed venue and switch to a backup plan in case of unacceptable risks.

17. IOI Palaces/Halls/Rooms: General Consideration

The exact number of IOI halls, meeting rooms and theatres depends on the programme. It is better to allocate more rooms in order to avoid unnecessary relocations. For every place create and publish emergency evacuation plans. Moreover, train volunteers to handle emergency situations. Special requirements for halls and rooms are written below in the corresponding sections of this document, and also in other parts of this publication. The general needs include Wi-Fi (wireless Internet), writing paper and pens or pencils, water and cups, food and drinks for breaks, presentation facilities such as screens, an audio system and microphones for large halls, facilities for printing, and technical staff on duty. Every need should be catered for in advance of the planned event and take into account the number of participants and the duration.

17.1. Opening and Closing Ceremonies Theatre(s)

The IOI opening/closing ceremonies involve all the IOI participants plus the invited representatives of IOI Countries, those living in the Host Country (e.g. diplomats), people and officials involved who are from the Host country and guests who come to participate in the public event. For ceremonies the theatre requires at least 1000 seats. Create a seating plan and instruct volunteers on the process for entering and exiting. The theatre must have Wi-Fi, presentation materials, large spaces, large monitors and the supporting technology.

17.2. Registration Hall

The registration hall is used on the Arrivals day. The registration upon arrival needs a large space, catering for at least 100 people. The Host should estimate the peak times based on the arrival of buses from the airport (look at the arrival information). The Host should plan optimal registration pathways for the IOI teams and prepare all the necessary materials (e.g. forms and backpacks). Wi-Fi and either a buffet or open restaurants should be provided.

17.3. *Competition/Contest and Practice Hall*

Either one large hall or a cluster of smaller halls should comfortably fit all the contestants at individual computers, taking into account that contestants should not easily view other contestant's screens. The HSTC needs to be accommodated very nearby. The peak load is all the IOI contestants plus leaders, who will be present during the practice and they will also visit after the contest. During the contest day's water and some food should be provided as well as the technology to run the contest. (This is detailed in another paper.)

17.4. *GA Meeting Hall*

This hall must accommodate all team leaders and committees. Guests registered by individual countries may also wish to attend so allow for some extra seating. The hall should provide Wi-Fi and presentation technology.

17.5. *Translation Hall/Rooms*

Seats and working facilities should be allocated for every IOI team. In practice, almost all the IOI adults participate in the translation session although English speaking countries often don't participate except to assist in some capacity. Translation occurs twice - each of the evenings before the 2 competition days. Translation begins at the end of the GA meeting where tasks are accepted/approved and continues often until breakfast. Wi-Fi, presentation technology, a buffet, printers and computers should be made available.

17.6. *IOI Conference & Question/Answer Session Hall*

All the IOI adults plus guests from the Host Country need to be seated in a hall. There must be good Wi-Fi (leaders are likely to be watching the scoreboard), presentation technology, coffee-break facilities, printers and technical support.

17.7. *Three IOI Committees Rooms (for the IC, ISC and ITC)*

Organize separate rooms for each committee, with sufficient space based on the committee sizes and their technical needs. There should be sufficient electrical power sockets for each member. Station the ISC and ITC near to the competition hall. Allocate additional meeting rooms nearby or at the accommodation as they may decide to meet at any time. Wi-Fi, presentation technology, water and a printer. Note: the Executive Director often needs a printer for small volumes but relatively urgently for election(s) material.

17.8. IOI Office

The IOI office is the Host staff office used to communicate with the IOI participants. Find an optimal location for the IOI office so that it is easily accessible by all attendees, organize information desks and create, if necessary, sub-offices. Inform the IOI participants of the room's location. This office needs Wi-Fi, water and printers.

17.9. Medical Office

The medical office should be staffed or another form of medical service needs to be available permanently at the IOI venue and during the excursions. Doctors on duty should be in the same building as the competition hall during competition days.

17.10. Server Room

Allocate a server room for the IOI grading system that meets the technical requirements for a relatively large computing system work (e.g. stable power, climate control and secure access).

17.11. Miscellaneous Spare Breakout Rooms

Rooms for Regional meetings (APIO, CEOI, etc.) and other events that are planned with the IOI community.

17.12. IOI TV & Life Stream Room

Allocate near the competition hall.

17.13. Press/Media Room

A daily newsletter is a feature of an IOI. Volunteers will photograph and interview teams. They will need computers and printers able to produce about 700 full color copies daily. Local press may also want space in which to interview visiting teams or individuals.

17.14. Organizing Staff Administration Rooms

Allow sufficient space and communication technology for all key functions. (Accommodation, transport etc.)

17.15. Working Area and Storage Rooms

A single hall may be allocated for the GA meetings, the IOI conference including a question and answer session, and possibly even for the translation sessions.

18. Opening/Closing Ceremonies

Create detailed programmes for the opening/closing ceremonies, plan for dealing with dignitaries and also consider providing printed programmes. Choose appropriate presenters, particularly for the awards section and try to ensure presenters understand their audience, thus avoiding long “boring” talks.

Plan the presentation for the “parade of teams” that takes place during the opening ceremony. Ceremonies may have different sections for leaders at the closing ceremony but generally teams are seated together. Occasionally hosts have seated medalists closer to the stage and not with the rest of their team. Plan to show video and photographs of the week while people enter the closing ceremony. The closing ceremony should culminate with the IOI flag handover ceremony, to the next year’s host. [1:S5.1].

19. GA meetings

Select the chair for the GA meetings [1:A3.2]. The chair should be a confident English speaker, be used to managing potentially challenging meetings and have some understanding of an Informatics competition. Design and prepare the IOI Country signs/sticks used for voting. Design and arrange the pigeonholes for every participating IOI Country and also for each member of the IOI committees. Before the GA meetings, print and distribute various materials provided by the IC/ITC/ITS/HSTC (e.g. contest rules, objection forms for task selection and forms for voting). Arrange a printer near the GA meetings hall for “emergency printing” during meetings.

20. IOI Conference

The IOI Conference is run in parallel with the contest and question/answer sessions. Contestants do not attend this event. However, the participating team leaders should be able to get and translate contestants’ questions during the conference. The IOI Conference is a great opportunity for the Host country teachers and scientists to come in contact with the IOI team leaders. It is common practice to invite Host country teachers to the IOI Conference and to arrange special sessions/seminars for them. Information on the IOI Conference (i.e. call for papers and programmes) should be published on the Host web site. The Host should prepare the participants’ diplomas, signed by the IOI conference Chair.

21. Question/Answer Session

During the contest contestants may ask questions directly to the HSTC/ISC in English or some other languages using the Contest Management System (CMS). However, the need for paper clarification forms cannot be eliminated and questions may need translation by team leaders [1:S6.8]. The workflow is: a contestant hands a clarification form to the contest staff, it is then sent to the ISC and delivered to the team leader for translation. After that it is delivered back to the ISC. If the ISC answer needs translation, the response is delivered to the team leader for translation. Then it is delivered to the ISC and finally it is delivered to the contestant. In recent IOIs all questions were open to all leaders and any leader who happened to know the language was allowed to translate.

22. Translation Sessions

Once the contest tasks have been approved by the GA they are made available to team leaders for translation. The HSC and ISC will announce when the final version of a problem is available but translation will often begin prior to that announcement. Develop protocols for printing draft and final versions, providing envelopes with printed statements and other materials, and signing off on printed final versions. Inform all the teams of the protocol. Create a secure and safe plan to transfer task translations from the translation hall to the contest hall. If printed, distribute them on tables and for online access use the CMS frontend. The number of different translation languages is usually fewer than the number of participating IOI Countries because of a number of English speaking countries, and often leaders from different teams will work on a single translation in a commonly used language. In practice, translation sessions are night events. The last team leaders may leave the translation hall at breakfast time. Other leaders will require transportation to their accommodation throughout the night. All translations of task statements should be ready for contestants before the competition. The Host does not now allocate computers for all teams for translation; instead, laptops are allocated on request. In the IOIs 2014 & 2015, less than 20 laptops were requested. We recommend contacting the leaders before the IOI and asking them to bring their own laptops, but some should be available for those that don't bring their own or possible loss or breakage of personal laptops.

23. Quarantine

Quarantine is designed to prevent any communication between contestants and the leaders/guests who know about the tasks, from the moment the competition tasks are presented to the GA until the end of the contest [1].

Excellent correlation of contestant results with previous and former achievements (e.g. at ACM ICPC and other programming competitions) shows that the IOI Commu-

nity is ethically healthy. The Host should develop sound quarantine procedures. Decide how internet access will be managed during the quarantine period for leaders and contestants. In IOI practice Internet access is not blocked during the translation sessions, as the leaders often use online translation services. However, it is recommended that Internet access and mobile communications are blocked for contestants. Bear in mind though that, the organization staff on duty must be able to make calls in case of emergency during this time.

24. Contest Hall

Create and publish emergency evacuation plans and train volunteers to handle emergency situations. Provide enough water and snacks for contestants during the contests and possibly the practice session. Organize papers and pencils for people to work with. Enforce the contest rules during the contest, which includes any place the contestants may be (eg: no communications in refreshment rooms). There should be a functioning climate control and ventilation system. The light should be comfortable, both for working on a computer as well as on paper. Avoid having direct sunlight in the room. Backup power should be enough to support all the systems, including light and ventilation. Carefully look at table sizes and tables with network facilities. The contestants should not be able to see monitors and printed materials of other contestants. They should also not be able to touch other contestants whenever they move with their chairs, stand up or go elsewhere. Passageways in the contest hall should be wide enough for two people to pass walking in opposite directions and in order to reach any contestant or any technical facility. The space around the contestant table should be sufficient that other contestants are not disturbed whenever technical support is given. Power/network cables and common facilities should be properly installed and protected in order to prevent damage and accidents. An audio system for general announcements must be available. Ensure there will be sufficient toilets with secure the pathways to them. Plan a “holding area” for students to wait in before the competition. Create a secure space in order to keep contestants’ keyboards and mascots. Prepare bags and identification paper for them and distribute them on the tables before the contest. Ensure that every contestant will get or has access to a complete set of task statements, including official statements and the relevant translations he/she needs. Experiments with paperless contests have shown that contestants prefer printed task statements and that they will print them, creating long printing queues at the beginning of the contest. Print and distribute contestant materials on the tables, provided by the HSTC (e.g. task statements and clarifications forms).

25. Accommodation

Accommodation, like the competition, should follow principles of equality of standards for different teams. If using hotels, find out the check-in/check-out times and

the foreign citizen registration policy. Decide on your policy for early arrivals and late departures of teams and inform the IOI participants before the IOI about any possible supplementary expenses. For hotels it is good practice to lock the minibar by default. Check that everything that is expected to be at the accommodation is indeed available, such as washing facilities, window blinds, beds, cupboards, chairs, tables, enough supplies (e.g. toilet paper, towels of sufficient size, sheets, pillows, pillow slips and such). Check that the bed linen is changed frequently. Check the number of showers/toilets/bathrooms. We recommend having at least one shower for four participants. Ensure that rooms have separate beds for different persons. Identify families within the IOI participants and allocate family rooms to them. Also, make sure to take gender into account during the allocation of rooms. Avoid mixing participants from different countries in a single room. When there is no other option, allow participants to choose or change. Create information desks at the hotels. Install additional wireless Internet capacity in the accommodation, as the Internet may not be sufficient. Shops for everyday needs should be near to the accommodation and instruct volunteers to help participants find them.

25.1. Adults Accommodation

The team leader and deputy leader may want to stay together in a single room, with the exception of different genders or any other given reason. Traditionally, the IOI committee members stay in single rooms.

25.2. Contestants Accommodation

Contestants may be placed in rooms for four people, a single team room, unless the team has mixed gender. It is important that rooms also have a separate shower and toilet.

26. Meals

Analyze the IOI Regulation guidelines [1:A5.3]. Decide exactly when and where each meal will be consumed each day, for all the IOI participants including the Host country staff (e.g. contestants, leaders, guests, IOI Committee members, Host staff and volunteers). Arrange snacks and (non-alcoholic) drinks for the IOI conference breaks, translation nights and the competition. Ensure that the logistics will allow for all the participants to eat in the allocated time slots, especially the breakfasts on the competition days. Ensure that dietary requirements such as vegetarian, halal, allergies etc. are catered for. If the dining space allocated does not allow for everyone to be seated at once then a longer time should be allocated for meal times. It is good practice to organize VIP meals with the Host Country officials.

27. Social and Cultural Programme

The organizational staff and a reasonable number of volunteers should participate in every event of the social and cultural programme. Inform all participants about the places they will visit and develop corresponding actions plan. Carefully count the participants before leaving and inform them what to do if they become lost.

27.1. Guest Excursions

The Host may plan guest excursions for every IOI day. Traditionally, an excursion is open for all participants on the day of arrival. The Host may organize daily guest excursions with lunch on site. Note that guest excursions are not mandatory. Many of the IOI adults are in fact teachers/coaches of contestants and plan to participate in team leader activities. On the other hand, some team leaders may prefer to participate to the guest excursions. Typically two busses, taking up to 100 people, are enough for a guest excursion. An excursion programme which highlights the beauties of your country may convince the participants to visit your country again!

27.2. Big Excursions (Two)

The IOI full day excursions (between the first and second competition days and after the second competition day) are excellent chances to showcase your country's attractions. Volunteers should participate in the big excursions with their teams. It is possible to develop different programmes for adults and contestants. If you schedule long trips, make sure to plan regular stops at places with restrooms and, if possible, offer comfortable buses with air conditioning, toilets and wireless Internet. It is preferable that the first of the two excursions will return to the accommodation before dinner time as contestants need to be well rested for the next day and the leaders may have a full night of translation ahead of them.

27.3. Invited Lectures/Sport Events/Entertainment

Traditionally the IOI programme includes many special events for contestants, leaders and guests. The Host is free to organize programmes to show the spirit of the Host Country. It is good practice to organize special events for the contestants during the quarantine evening time - obviously, in accordance with quarantine requirements.

28. Transportation

Determine all the needs for transportation. Based on arrival and departure information, create transportation plans for arrival and departure days. Decide on how to handle

transfers of early arrivals and late departures. Based on a detailed programme, request schedules of the planned meetings from the international committees and consider other events that may need transportation. Analyze the traffic data, choose optimal routes, prepare backup plans and measure transportation time. It is better to allow a larger tolerance for transportation times than you might for individual travel. In practice, people boarding a bus may take up to half-an-hour. Whenever walking times are greater than 15 minutes, organize shuttles between accommodation and other venues. Allocate small busses for every day organization and for transportation for the international committees (e.g. the HSTC/ISC/ITC usually prepare a contest day report at competition site and may, therefore, need transportation to the GA meeting site). Plan action plans in relation to lost luggage at the arrival days. Pay special attention to the transportation for the translation nights. Create plans that are flexible and can cope with unexpected changes (e.g. late arrivals). We recommend transferring a whole IOI Country team in a single bus on the day of departure. Select appropriate busses for transportation needs (e.g. for long way excursions).

29. Live stream, Press & IOI Newsletter

The IOI Community is a lot bigger than merely the IOI Participants. We know that worldwide many people are highly interested in what is happening at the IOI. Therefore, ensure real time photos and videos (with translations) of the IOI events are provided and distribute any related materials on the IOI Host website. Plan the production and distribution of the daily IOI newsletters. Live stream has, to date, been provided by a volunteer, Eljakim Schrijvers.

30. After IOI Activities

Prepare the IOI report. This will be presented to the International Committee the following year and should be an honest reflection of the IOI. It is of great benefit to future hosts. Refresh the video and photo archive and publish selected material. Maintain and do not close the official Host website after the respective IOI has finished.

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References

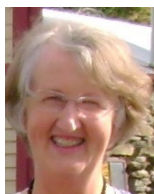
1. IOI (2016). *Official Regulation*. <http://ioinformatics.org/rules/index.shtml>
2. Verhoeff, T., Horváth, G., Diks, K., Cormack, G. (2017). *The International Olympiad in Informatics Syllabus*. http://www.ioinformatics.org/a_d_m/misc/iscdocuments/ioi-syllabus.pdf
3. IOI (2016). *ITC Guidelines*, Last modified on 3 April 2016. <http://wiki.ioinformatics.org/wiki/HostingAnIOI>
4. Jeskanen, M. (2002). *Handbook for Arranging the International Olympiad In Informatics, Scholarly Thesis*. <http://olympiads.win.tue.nl/ioi/guides/ioi-handbook.pdf>



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