

## 1. General

- 1.1 The 50<sup>th</sup> International Mathematical Olympiad (the "IMO 2009") will be held in Germany from July 10 to July 22, 2009.
- 1.2 These regulations (the "regulations") govern the running of the IMO 2009.
- 1.3 The Association Bildung und Begabung e.V. ("Bildung und Begabung") has an overall responsibility for the organization of the IMO 2009.
- 1.4 The aims of the IMO 2009 are:
  - to discover, encourage and challenge mathematically gifted young people in all countries;
  - to foster friendly international relationships among mathematicians of all countries;
  - to create an opportunity for the exchange of information on school syllabuses and practices throughout the world;
  - to promote mathematics generally.

## 2. Participation

- 2.1 Participation in the IMO 2009 is by invitation only. Each invited country is entitled to send a team consisting of up to six contestants (the "Contestants"), a Leader and a Deputy Leader to be known collectively as the participants (the "Participants").
- 2.2 Contestants must not have formally enrolled at a university or any other equivalent post-secondary institution, and they must have been born on or after July 17, 1989.
- 2.3 Observers including family members (the "Observers") may apply to accompany the Participants, the terms under which they can do so are detailed in sub-clause 3.5 below.
- 2.4 The official programme (the "Official Programme") as referred to below is the programme and outline itinerary for the IMO 2009 and associated events. Bildung und Begabung reserves the right to amend or revise the Official Programme in whole or part. If there is by any chance a significant change, Participants and Observers of the invited countries will be notified in advance.
  - The Official Programme for Leaders begins on July 10, 2009 and ends on July 22, 2009.
  - The Official Programme for Deputy Leaders and the Contestants begins on July 13, 2009 and ends on July 22, 2009.The Official Programme will contain, among other things, details of accommodation arrangements (including food) for Participants and Observers and the venues for various official events associated with the IMO 2009.
- 2.5 Each invited country wishing to participate in the IMO 2009 must confirm participation online ([www.imo-official.org/registration](http://www.imo-official.org/registration)) using username and password provided by Bildung und Begabung no later than February 27, 2009. This will also confirm that the Leader agrees to abide by the Regulations for the IMO 2009.
  - Registration of Leaders, Deputy Leaders and Observers must be completed online no later than April 30, 2009.
  - Registration of Contestants must be completed online no later than June 2, 2009.
  - Registration of arrival/departure dates of Participants must be completed online no later than June 15, 2009.
- 2.6 Leaders and Deputy Leaders are responsible for the conduct of the Contestants, and for the avoidance of doubt the Leaders and Deputy Leaders are acting in loco parentis for their Contestants except where Bildung und Begabung has been notified in writing that an Observer has been nominated to act in loco parentis.
- 2.7 Leaders and Deputy Leaders must ensure that their Contestants know and fully understand clause 5 of these Regulations. They must also make it clear that any Contestant who violates any of these Regulations may be liable to disqualification from the IMO 2009. In order to avoid any trouble or accident, Leaders and Deputy Leaders must also inform fully their Contestants of the contents of "Important Contest Information for Contestants".

## 3. Responsibility for Accommodation and Expenses

- 3.1 Bildung und Begabung will provide accommodation in single rooms as a rule for Leaders, Deputy Leaders and Observers and in shared rooms for Contestants. Furthermore Bildung und Begabung will provide meals, transport between Bremen Airport or Bremen Main Railway Station (Bremen Haupt-

bahnhof) and the accommodation site and other necessary transport between the accommodation site and other venues on the Official Programme for all the Participants and Observers. In order to maintain the integrity of the IMO 2009, the detailed Official Programme will not be disclosed until arrival.

- 3.2** Other than in respect of the provision of accommodation, meals and transport during the Official Programme as detailed in sub-clause 3.1, Bildung und Begabung shall not be liable under any circumstances for any costs or expenses whatsoever or howsoever incurred by any Participant or Observer in connection with the IMO 2009. In particular, Bildung und Begabung shall not be liable for any expenses derived from:
- Spending extra days in Germany outside the relevant dates specified in sub-clause 2.4 above;
  - Transports to and from Germany incurred by Participants or Observers;
  - Transports within Germany prior to arrival at Bremen Airport or Bremen Railway Station or following departure incurred by Participants or Observers.
- 3.3** All Participants and Observers are responsible for obtaining full accident, health and travel insurance. It is the Leader's responsibility to confirm online using username and password provided by Bildung und Begabung that this condition has been met for all members of his or her team.
- 3.4** Bildung und Begabung expects to offer opportunities to Participants and Observers for excursions and/or cultural trips but will be under no obligation to do so.
- 3.5** In reference to sub-clause 2.3 above the deadline for receipt of an application to accompany the Participants as Observer is April 30, 2009. Since extra accommodation is limited, no guarantee is given that such applications will be successful. For those applications that are notified as successful, full payment must be made in cleared funds of the following charges by June 1, 2009. Any application received without the full payment of the charges will be rejected. No refund will be given.
- Observer A accompanying the Leader and residing at or near the Leaders' site: 2200€ (two thousand two hundred Euros) for a single room, 2000€ (two thousand Euros) per person for a double room (for 12 nights).
  - Observer B accompanying the Deputy Leader and residing at or near the Deputy Leaders' sites: 1200€ (one thousand two hundred Euros) for a single room, 1000€ (one thousand Euros) per person for a double room (for 8 nights).
  - Observer C accompanying the Contestants and residing at their site: 1200€ (one thousand two hundred Euros) for a single room, 1000€ (one thousand Euros) per person for a double room (for 8 nights).

Consideration will be given to applications from Observers wishing to attend and observe the IMO 2009 for only part of the period of the Official Programme and in such cases the charges, accommodation and all other relevant arrangements have to be negotiated with Bildung und Begabung.

## 4. Proposals for Problems

- 4.1** Each participating country other than the host country is expected to submit up to six proposed problems, with solutions, to be received by the Problem Selection Committee no later than March 31, 2009. Only the Leader may submit the proposals. They should be sent by mail (not by e-mail, for security reasons).
- 4.2** The proposals should, as far as possible, cover various fields of pre-university mathematics and be of varying degrees of difficulty. They should be new and may not have been suggested for or used in any other Mathematics competition.
- 4.3** The proposals must only be written in English, French, German, Russian or Spanish. The proposals and solutions should be accompanied by their English versions.

## 5. Contest Regulations

- 5.1** The contest element of the IMO 2009 (the "Contest") will take place in Bremen on July 15 and 16, 2009, under the direction of the Chief Invigilator appointed by Bildung und Begabung. On each day of the Contest the examination will start in the morning and last for 4 and a half hours. Each of the two examination papers will consist of three problems.
- 5.2** Each Contestant may receive the problems in one or two languages, previously requested on the registration form, provided that the Jury (as defined in 6.1) has approved the relevant translation.
- 5.3** Each Contestant must work independently and submit solutions in his/her own language. The solutions must be written on answer forms provided by Bildung und Begabung. Contestants must write on only one side of each answer form.
- 5.4** The only instruments permitted in the Contest will be writing and drawing instruments, such as rulers and compasses. In particular, books, papers, tables, calculators, protractors, computers and communication devices will not be allowed into the examination room.
- 5.5** The Jury, Observers and any others who have sight of the problems and solutions before the examinations shall do their utmost to ensure that no Contestant has information, direct or indirect, about any

proposed problem. They must also ensure that all Contest problems and solutions are kept strictly confidential until after the entire Contest has finished. They are barred, from the moment of their arrival in Bremen until the time of conclusion of the second examination, from having any external communication with Contestants, Deputy Leaders and accompanying Observers. In case of an emergency, Bildung und Begabung will provide proper assistance. Similarly, Contestants, Deputies and their Observers are barred from contacting Leaders and Observers accompanying the Leaders, during the same period of time. Information about arrivals, delays about arrivals and similar messages are to be directed exclusively to the published IMO office and may be forwarded by the office to the Leaders upon request.

- 5.6** The total number of prizes will not exceed half the total number of Contestants. The numbers of first, second and third prizes will be approximately in the ratio 1:2:3.
- 5.7** Special prizes may be awarded for solutions considered outstanding by the Jury. Proposals for such special prizes will be put forward by the Chief Coordinator.
- 5.8** The prizes will be awarded at the Closing Ceremony. Each Contestant who has not received a first, second or third prize will receive a Certificate of Honourable Mention if he/she has received seven points for the solution of at least one problem.
- 5.9** Each Contestant will receive a Certificate of Participation.

## 6. Jury Regulations

- 6.1** The "Jury" will consist of all Leaders, together with a Chairman. A Leader may be replaced by his/her Deputy Leader in an emergency (subject to the prior approval and consent of the Chairman of the Jury). Members of the IMO Advisory Board who are not already members of the Jury, members of the Problem Selection Committee and the Chief Coordinator (as defined in clause 7 below) may also attend meetings of the Jury as observers. Observers may attend meetings of the Jury only with the permission of the Chairman of the Jury, but will not be entitled to speak or vote. However, they may exceptionally speak at the explicit request of the Chairman of the Jury. Deputy Leaders may attend, as observers, meetings of the Jury held after the Contest.
- 6.2** Only Leaders may vote in the decisions of the Jury and each Leader will have one vote. A motion shall be carried by a simple majority of those voting. In the event of a tie, the Chairman will have a casting vote.
- 6.3** The Jury may appoint sub-committees to consider specific matters.
- 6.4** The meetings of the Jury will be conducted principally in English. The Chairman should request a translation into some of the official languages (French, German, Russian and Spanish) as needed.
- 6.5** Before the Contest the Jury will
  - verify that all Contestants comply with the prescribed conditions for participation;
  - select the Contest problems from amongst the submitted proposals on the basis of a preliminary selection made by the Problem Selection Committee appointed by Bildung und Begabung;
  - prepare and approve the official versions of the Contest problems in English, French, German, Russian and Spanish;
  - approve the translations of the Contest problems into all required languages.
- 6.6** On each day of the Contest, the Jury will consider written questions raised by Contestants during the first half-hour of the Contest and decide on replies.
- 6.7** After the Contest, the Jury will
  - receive and approve a report made by the Chief Invigilator on the conduct of the examinations;
  - receive a report from the Chief Coordinator on any unresolved disputes which may have arisen during coordination and determine the appropriate scores;
  - approve the scores of all Contestants;
  - decide winners of first, second and third prizes;
  - consider and make decisions on all proposals to award special prizes;
  - consider matters raised about future International Mathematical Olympiads.
- 6.8** Any allegation or suspicion of a violation of the Regulations generally shall be reported to the Chairman of the Jury. If he considers there is a prima facie case, he will form a committee to investigate further. The committee will report its findings to the Jury. The Jury will decide whether a violation has occurred and, if it decides that one has, then it will decide what sanction, if any, to apply. Possible sanctions include the disqualification of an individual Contestant or an entire team from the competition. The decision of the Jury will be final.

## 7. Coordination

- 7.1** Each problem will be allocated a score out of a maximum of seven points.

- 7.2** Prior to coordination, Contestants' solutions will be assessed by Leaders and Deputy Leaders in accordance with the marking schemes prepared under the direction of the Chief Coordinator appointed by Bildung und Begabung and discussed and agreed upon at the meeting of the Jury.
- 7.3** Each coordination session will involve two Coordinators provided by Bildung und Begabung and representatives of the relevant country. Two representatives, normally the Leader and Deputy Leader, are permitted to participate actively in any one session. With the approval of the Chief Coordinator, one further representative may be present to observe the coordination process but cannot take any active part in it.
- 7.4** The Leader and the designated Coordinators should agree on the scores for each Contestant. These scores will be recorded on official forms and signed by the Leader and the Coordinators. If the Leader and the Coordinators fail to agree on a score for a Contestant, the matter will first be referred to the head Coordinator (Problem Captain) for that problem. If there is still no agreement, the matter will be referred to the Chief Coordinator. If the Leader and Chief Coordinator then fail to agree on a score, the Chief Coordinator will report the matter to the Jury with a recommendation as to what the score should be. The Jury will then determine the score.
- 7.5** If, during a coordination session, the designated Coordinators consider that an irregularity may have occurred, they will immediately refer the matter to the Chief Coordinator. Unless he is satisfied that there is no case to answer, he will report the situation to the Chairman of the Jury.
- 7.6** For each problem, solutions by German Contestants will be coordinated by the Leader and Deputy Leader of the country which submitted the problem, with the assistance of the Problem Captain for that problem.

## **8. Entire Agreement and Understanding**

- 8.1** The Leaders, Deputy Leaders and Contestants acknowledge that these Regulations and the documents referred to herein, constitute their entire agreement and understanding of the parties and supersede any previous discussions or representations made by or on the behalf of Bildung und Begabung in respect of the IMO 2009.

## **9. Force Majeure**

- 9.1** In these Regulations, "force majeure" shall mean any cause preventing Bildung und Begabung from performing any or all of its obligations which arises from or is attributable to acts, events, omissions or accidents beyond the reasonable control of the party so prevented including without limitation strikes, lock-outs or other industrial disputes (whether involving the workforce of the party so prevented or of any other party), act of God, war, riot, civil commotion, malicious damage, compliance with any law or governmental order, rule, regulation or direction, accident, breakdown of plant or machinery, earthquake, typhoon, fire, flood, storm, or default of suppliers or sub-contractors.
- 9.2** If Bildung und Begabung is prevented or delayed in the performance of any of its obligations to Leaders, Deputy Leaders and Contestants under these Regulations by force majeure it will have no liability in respect of the performance of such of its obligations as are prevented by the force majeure events during the continuation of such events, and for such time after they cease as is necessary for Bildung und Begabung to recommence its affected operations in order for it to perform its obligations.