

# **General Assembly: Minutes for the Meetings hosted by Singapore for IOI 2020**

**13 September – 23 September, 2020**

**Venue: Online, via Zoom and Keybase**

## **Sunday 13 September : GA Meeting 1 12:00 – 13:00 SGT**

### **1. Welcome**

IOI President Greg Lee welcomed everybody to the first ever online IOI. He talked through the difficult decisions over the past months, and thanked Sun Teck Tan, Steven Halim and all the local organisers for their efforts to make this possible.

### **2. GA chair presented**

Sun Teck Tan, Chair of IOI 2020, also talked through some of the background behind the planning for IOI 2020 online, and highlighted that we were doing this for the students. He thanked the core teams in Singapore for all their efforts and all the team leaders for setting the necessary infrastructure for their students. Sun Teck then introduced Steven Halim as GA Chair.

### **3. Explanation of GA procedure**

Steven Halim, GA Chair, talked through the procedures for the online General Assembly meetings. Meetings were being recorded, and the recordings could be requested by those who not attend; Mathias Hiron was also live-blogging the meetings.

Steven talked through some basic Zoom etiquette, and reminded us who was invited to attend the GA meetings. Presentations were taking place over Zoom; discussion and voting was taking place in real time on Keybase, and additional discussion could take place over the IOI-GA mailing list. Importantly, the general Keybase channels were open to members of the delegations and committees (including adjuncts) who had been properly authenticated, the voting channel was only open to one representative per country (typically the team leader), and the task-related channels were only open to team and deputy leaders, committee members and translators.

### **4. Presentation and approval of Contest Rules**

William Gan, HSC Chair, talked through the contest rules (which had already been available online in the lead-up to IOI 2020). The main changes include:

- Quarantine only begins at the start of the competition, since team leaders may be needed to help manage their local sites;
- Task statements are only accessible online via CMS, and will not be printed;
- Clarification requests must be related to tasks and grading only;
- For students who do not speak English, they should submit their clarification requests in written form to proctors, who will photograph them and pass them to the GA for translation;
- Other (e.g., technical) questions should be submitted via team leaders through Keybase;
- Scores are rounded to two decimal places;
- Contestants will not be able to print at all;
- Announcements about the end of contest will be sent to team leaders via Keybase, who should relay them to their contestants;
- Extra time is unlikely to be granted this year, though it will still be possible to request it via CMS and Keybase;

- Appeals can be made online via an online Google Form, and there will be a 24 hour window for contestants to do this.

There was a question from the GA, about the technical details of where on Keybase technical issues should be reported (this was answered by William).

There was a question about printing: Steven Halim confirmed that team leaders / proctors may print the contest tasks before the beginning of the contest, but contestants cannot print their own code during the contest since this would violate the rules.

William clarified that technical problems with contestants' hardware will not be grounds for additional time. Proctors are able to help with hardware issues, but cannot help or advise students on issues related to their own code. If proctors are unsure then they should forward the question to HSC/ISC on Keybase, who will advise on how it can be handled.

There was a question about who is able to translate non-English clarifications. William explained that proctors should translate clarifications into English if possible; if not then the hosts will contact the team leader via Keybase and ask them to translate.

William explained that every technical issue that proctors solve themselves should also be reported to the hosts on Keybase, so they can collect information about all issues that occurred.

It was asked whether clarifications should be submitted via photo for all non-English questions, or just for questions that use non-English characters? William explained that it should be done for all non-English questions, so they can more easily forward the question for translation.

The GA was asked to vote on whether to accept the Contest Rules. The vote was done via Keybase; the Contest Rules were approved: 62 for, 0 against.

## **5. Vote on Honourable Mentions**

Benjamin Burton, IOI Secretary, outlined the proposal to introduce Honourable Mentions. This originated at a GA discussion (outside the regular meetings) at IOI 2019, was formalised into a specific proposal by the IC at the February 2020 review meeting, was then mailed to the IOI-Announce list, and was further discussed on the IOI-GA list and in Mile Jovanov's article in the IOI Journal.

The specific proposal was, in essence, that the top 50% of competitors would receive medals (as we always do), and the next 20% would receive Honourable Mentions. This is being proposed as an experimental regulation change which, if approved now by GA, would be used at this IOI (2020).

The GA were being asked to vote on two options:

1. Accept the "next 20%" proposal, starting now at IOI 2020;
2. Do not introduce Honourable Mentions this year, but instead discuss further in the GA what criteria to use (if any), with an aim to introduce a new (possibly different) proposal for use at IOI 2021.

There was no option to discuss different criteria for use this year, since we need time and space for such a discussion that is not available here in the first GA meeting. There will be room to discuss this issue further in the final GA meeting this year.

There is also no option to lock in the 20% criterion for 2020 but then discuss further to possibly change criteria in 2021; however, if there was appetite from the GA then such an option could be added.

Mile Jovanov (IC) made a presentation giving the background to this proposal. He highlighted that the motivation was to reward more people, and to have more countries finish with recognition after the IOI. He also noted that the other four major Science Olympiads all reward ~70% of competitors with some form of recognition. He noted the prior use of experimental regulations at IOI 2010 (Canada), which introduced more significant changes, and which have since been generally accepted as good.

It was noted that experimental regulations do not require ratification from the GA (though this is a change we are proposing for future years); however, we are asking for the GA's approval now to ensure that, if we do introduce Honourable Mentions, that the GA as a whole are happy with this decision.

Troy Vasiga (Canada) gave background to the experimental regulations introduced at IOI 2010. He noted that they wished to expand what they were able to ask in contest tasks, and asked for experimental regulation changes to ensure this followed both the "letter and spirit of the law". He argued that Honourable Mentions were a much greater change, and noted that there is no particular urgency to introduce them this year while we are dealing with the first ever online IOI and where there is no real opportunity for in-depth discussions amongst GA members. He also noted that any decision made now could be difficult to unwind later, and so we should take the time to discuss it thoroughly.

Eduard Kalinichenko (IC) gave some background on the IC's proposal. He noted that the criteria chosen was one that does not change contestants' strategies. He explained that we are asking for a 2/3 majority now because this respects the spirit of what a regular change to the statutes would require, and suggested that if we cannot raise 2/3 support now then we should not accept the proposal.

Mile Jovanov (IC) responded to the IOI 2010 analogy, noting that IOI 2010 introduced changes that altered strategies, such as subtasks and full feedback. He argued that these were large changes, and worked out fine. The current strategy for Honourable Mentions does not change strategy, since contestants still aim to maximise their score.

The GA voted on the proposals: 31 members voted to accept the "next 20%" proposal, and 39 members voted to discuss further instead. There was no option available to abstain.

## **6. Code of Conduct reminder**

Benjamin Burton highlighted the GA that the IOI is an inclusive, considerate and welcoming community, with a diverse family of members, and that even though IOI 2020 is online, students still have opportunities to interact (e.g., through live chats in the opening ceremony). He reminded the GA that we will not tolerate intimidation, harassment or abuse, and that team leaders should ensure that their students have read and understood the IOI Code of Conduct (available on the IOI website, and also mailed to the IOI-GA list).

## **Wednesday 16 September : GA Meeting 2 12:00 – 13:00 SGT**

### **7. Issues arising from the practice session**

Jakub Łącki, ISC Chair, gave a summary of the practice session:

- The contest started on time.

- The machines did not unlock for a significant fraction of contestants due to timezone issues, and the fix that was applied accidentally triggered a reboot and wipeout of all machines. Both issues will be fixed on day 1 by unlocking the machines 30 minutes before the contest. This, however, will require proctors to tell contestants when to start. The start time will be announced at least five minutes in advance on Keybase.
- There were some issues with the task materials; however, the real contest tasks are far better tested than the practice tasks were. All issues were fixed in ~20 minutes.
- The compile.sh script on the contestant machines was not executable; this will be fixed for contest day 1.
- CMS allowed contestants to test their code; however, this feature will be removed since it was also removed from the Contest Rules.
- Some sites had limited internet bandwidth, which caused two issues: backups took a long time, and task statements were not pushed onto the machines in time. This will be fixed by excluding PDFs from the backups, pushing task statements early, and not pushing translated statements. Team leaders should ensure machines are switched on four hours before contest, and should print the translated task statements to be safe (though these will still be available through CMS).

Fredrik Niemelä, ITC Chair, summarised the technical issues:

- A few contestants could not log in; the cause is still unclear but the problem was fixed quickly by resetting the passwords.
- There was a higher variance in runtimes than expected; this is being fixed by changing the hardware configuration and retrying submissions that only exceeded the time limit slightly.

Jakub Łącki explained what to do if a contestant is unable to submit via CMS for any reason; the process involves running the ioisubmit script, and submitting a picture of the output to #contestops on Keybase.

Team leaders were reminded not to distribute tasks statements until after the contest, since they will not be published before then.

The 15/5/1 minute warnings for contestants will be announced on Keybase, each five minutes in advance to account for Keybase lag.

## **8. Presentation of tasks for Competition Day 1**

The General Assembly meeting ended at this point, and the presentation of tasks moved to Keybase. There was no vote this year, though delegations were still able to lodge objections through Keybase.

## **Saturday 19 September : GA Meeting 3 12:00 – 13:00 SGT**

### **9. Report on Competition Day 1**

Jakub Łącki, ISC Chair, gave a report on issues from competition day 1:

- One contestant lodged a clarification request before the contest started; the proctor was told that contestants should not yet be using machines, and the machine itself was reprovisioned.
- Five contestants switched to a different VM or machine, and in two cases this was not reported to #contestops; the risk of not reporting the change is that reprovisioning may erase code that the contestant has already written.
- There were six reboots and ten connectivity issues (four due to major power/ISP outages).
- Delegations were reminded not to test backup machines within four hours of the contest start.

- At point all Tajikistan contestants were disconnected due to a power outage. It took a little over an hour for both power and internet to be restored. The backup submission mechanism was not needed.
- Three technical questions were not answered (instead “Invalid question” was sent back). It appears the contestants fixed the problems themselves quickly. The organisers apologise and will provide technical assistance as expected on contest day 2.
- Contestants did not understand what “Security violation” meant, and this was not mentioned in the contest rules. It typically happens when a program writes to stdout, reads from stdin, or calls exit(0). The notice will be updated with an explanation for day 2, and next year the response will be renamed to “Protocol violation” and included in the contest rules.
- One contestant asked about stack size limits. The “real” judge in CMS has no limit but the virtual machines have a limit of 8MiB, and this was not advertised. This will be fixed by providing a script for contestants to run solutions using the correct limit. Delegations leaders should notify contestants that they can change the VM 8MiB limit using the ulimit command.
- There was an error with memory limits in Java, but it appears that nobody was affected. Revised (and fairly generous) heap and stack limits for day 2 were announced to delegation leaders.
- There were no changes to statements/graders/tests, no rejudges, and no submissions using the backup mechanisms.

The final number of contestants will be between 343 and 345 inclusive.

There were 14 test cases in 10 submissions rejudged due to marginally exceeding the time limit; these gave no changes to scores.

There were 8112 submissions, 342 contestants using C++ only, 4 contestants using Java only, and 1 contestant using both languages (these counts include unofficial contestants also).

#### **10. Summary of appeals for Competition Day 1**

There were no appeals.

#### **11. Presentation of tasks for Competition Day 2**

An additional layer of authentication was added to the translation system for day 2, to avoid the risk of leaking task details.

The General Assembly meeting ended at this point, and – as with day 1 – the presentation of tasks moved to Keybase. Again there was no voting on tasks, but leaders could still lodge objections.

### **Wednesday 23 September : GA Meeting 4 19:00 – 21:00 SGT**

Steven Halim, GA Chair, thanked all team leaders and proctors for their help in making IOI 2020 run successfully.

#### **12. Report on Competition Day 2**

Jakub Łącki, ISC Chair, gave a report on issues from competition day 2:

- Two contestants switched to different VMs or machines; these typically took under five minutes to process.
- Five machines hung; these took a few minutes each to resolve.
- Five sites experienced connectivity issues; these took under ten minutes to fix.

- One contestant submitted a solution via ioisubmit but this was rejected for being four seconds late.
- One machine froze for the last 8 minutes of the contest. Their request for extra time was declined, but ISC did accept two submissions copied from the machine due to a delay in communicating with the proctor.

The final number of official contestants is 343.

### **13. Summary of appeals for Competition Day 2**

There were two appeals:

- The internet was down for 90 minutes in an entire country during day 1, and a contestant from that country was just below a medal boundary. Although it is acknowledged that it was a very unfortunate situation, the response was that the ISC cannot adjust medal boundaries; moreover, this was an issue from day 1 where appeals had already been finalised.
- A team leader reported that a contestant machine froze, the reboot took 20 minutes and wiped all the data, and then 10 minutes later the machine was reprovisioned and again all data wiped. The technical committee reported that the new VM appeared in their systems after the reboot and they tried to contact the leader on Keybase for 15 minutes; once the leader gave the green light, the machine was reprovisioned. These two reports were contradictory, and regardless, there was unfortunately no fair way to fix the issue at this time.

There was also a case of misconduct:

- An anonymous source reported an allegation of cheating to the committees. The committees investigated thoroughly, and also contacted the team leaders who in turn contacted the contestant. The contestant at this point admitted to receiving external help during the contest. The ISC then proposed disqualification, and the IC approved this. The final number of official contestants (and therefore the medal boundaries) remains unchanged.

There had been allegations online that the leaders were complicit in the cheating. The ISC highlighted that in reality the leaders had been extremely helpful in working with the committees on this matter, and there was no reason or evidence to suspect that they were involved in the cheating in any way.

Jakub Łacki thanked the host technical and scientific committees for their exceptional work in arranging the contest this year, and noted that there were no issues at all that required regrading or fixing the tasks.

### **14. Results and confirmation of awards**

Jonathan Gunawan (ISC) thanked the task authors: Jo Sunghyeon, Ranald Lam Yun Shao, Ling Yan Hao, Xiao Mao, Mikhail Tikhomirov, and Angus Ritossa, as well as the authors of other tasks (e.g., backups) that did not appear in the contest. He then presented brief statistics on how well and how quickly each task was solved, as well as statistics on the total distributions of scores.

The allocation of medals was:

- 29 gold medals (cutoff 479.62 points);
- 57 silver medals (cutoff 338.10 points);
- 85 bronze medals (cutoff 235.59 points).

The disqualified contestant did not affect the cutoffs at all, since the number of contestants did not change, and the disqualified contestant was below the bronze cutoff.

The GA approved the allocation of awards, with 59 votes for, 0 votes against, and 0 abstentions.

## **15. ISC report**

Jakub Łącki, ISC Chair, listed the current ISC members, as well as Michal Forisek who served as an adjunct.

The ISC met in February for task selection and planning; this was a hybrid meeting with three members in Singapore, three in Baku (thanks to Farid Ahmadov for organising), and one in Egypt. They also met ten times online before IOI for proofreading task statements and improvements to the task materials. During IOI they worked on the usual tasks including translation, objections, task selection, appeals, time extensions and investigating misconduct allegations.

Finally, he thanked the Singaporean hosts again for organising a great IOI.

Greg Lee, IOI President, thanked the ISC for a great job.

## **16. ITC report**

Fredrik Niemelä, ITC Chair, listed the current ITC members, and reminded the GA of the three main purposes of ITC: (1) to assist the current host; (2) to develop and maintain long term tools and systems; and (3) to transfer knowledge and experience to future hosts.

This year the cooperation with the host worked splendidly, both when working together on-site before the pandemic, and then working online during the pandemic. He highlighted that the all of the actual work was done by the HTC, and thanked them for their excellent work.

He outlined the supporting software tools that ITC maintains, all available at <https://github.com/ioi/>, and encouraged countries to use these tools in their own competitions. There is also a technical checklist for future hosts at <https://wiki.ioinformatics.org/wiki/HostingAnIOI>, and more information on the ITC webpage at <https://itc.ioinformatics.org/>. Contributions from the community are very welcome.

He listed the mailing lists, and in particular encouraged people to ensure they were subscribed to the IOI-Announce list, which is low-volume and moderated.

Regarding Java: last year it was announced that we would remove Java at IOI 2021. This year's statistics support that decision also: Java was used by just five contestants (1.5%), and there appeared to be little observable correlation between the results and the choice of language. The post-IOI survey also supports this decision, with expressions of support for Java dropping further in the post-2019 survey results. There has also been no strong opposition from within the GA to dropping Java.

Fredrik fielded questions from the GA. It was noted that dropping Java would mean the IOI would, in the immediate future, be C++ only. It was also noted that both Java and C++ had been first-class languages (i.e., all problems could be reasonably solved in both languages), and despite this the contestants' use of Java was extremely low. The reason for wanting to drop Java was because additional languages take significant time and effort to support, and if the languages are not being used then that time and effort could be better spent improving other aspects of the contest.

Fredrik called for a GA poll on finalising this decision, and a vote was taken on Keybase. The result was 42 for removing Java, 4 against removing Java, and 15 abstentions. Java will be therefore removed from IOI 2021 onwards.

ITC are not suggesting to add Python at the present time: only 20% of the survey responses indicated a desire for Python, and this number is going down since the previous year. They will continue to ask about Python in the post-IOI survey.

### **17. President's report**

Greg Lee, IOI President, thanked the entire IOI community for making IOI 2020 happen. Earlier in the year we were debating whether to delay or even cancel IOI 2020, but the IC decided that the contest is for the students, and so it happened thanks to the dedicated work by the hosts, and by the leaders and proctors.

This year we have a record number of countries and contestants, and the contest itself has run very smoothly: starting on time and with very few appeals. We have even managed synchronous online meetings, online voting and online translations. He encouraged everyone present to give themselves, and the Singaporean hosts, a round of applause for a job well done.

He asked us not to get too comfortable with online IOI, with the hope that we can return to a face-to-face event next year with personal interaction and cultural activities, and to be able to visit Singapore in person.

This year Acer did not sponsor machines, and so we are talking with them with the hope of extending their sponsorship for an additional year. We are also beginning to look into continuing corporate sponsorship for future IOIs.

He also noted that Margôt Phillipps stepped down as IOI Secretary in July: she has now served as Secretary for two separate terms. In her second term she has cleaned up IOI minutes, organised all the IOI documents on cloud storage, and ensured that IOI business continues to run during the off-season. He publicly thanked her for her service to the IOI community.

He has delegated the Secretary's tasks on a temporary basis to Ben Burton, and he encouraged anyone interested in taking up this position to contact him.

Finally, he informed the community that the founder of IOI, Prof. Blagovest Sendov, passed away earlier this year, on Sunday January 19. Prof. Sendov proposed the creation of IOI to UNESCO in Paris in 1987, and in May 1989 UNESCO sponsored the first ever IOI in Bulgaria. Without Prof. Sendov's vision, the IOI would not have come to be, and for his efforts he was awarded the IOI Distinguished Service Award in 2012. The GA paused for a moment's silence to respect his passing.

### **18. Secretary's report**

Ben Burton, Acting IOI Secretary, also gave his thanks to Margôt Phillipps for everything she has done over her two terms as Secretary (2014-2016 and 2018-2020), and noted that almost everything he was reporting on now was her work.



The Secretary carried out the usual correspondence and ongoing tasks throughout the year, which GA members were encouraged to read about the IOI Regulations (E3.8). The volume of work did increase markedly in the past six months due to complications from the pandemic, and again he thanked Margôt for handling this.

There were no observers or new countries this year due to the pandemic and online IOI, but we are in talks with several interested countries for coming years.

The first draft of minutes from GA 2019 were mailed to the IOI-GA list last Thursday; revisions were mailed yesterday, and there was one additional minor change made since then. The GA voted on Keybase on whether to confirm these minutes: the results were 54 yes, 0 no, and 5 abstentions. The 2019 GA minutes were therefore approved and will be posted to the IOI website.

He showed the new IOI logo, thanks to Eslam Wageed (IC), and noted that each year will still have its own custom IOI'n logo as usual.

He outlined the process of bidding to host an IOI, which begins with a non-binding letter of intent to the IOI Secretary. Bidders should endeavour to provide visa support and reasonable levels of security, and you can declare your intent up to seven years ahead. We intend to select the IOI 2025 host (which is the next available year) during IOI 2021.

Steven Halim (as Singapore host) noted that it is a huge risk but also a huge reward to host an IOI, and encouraged anyone planning to host IOI 2025 to talk to the current hosts and also talk to the IC.

## **19. Honourable mentions**

Ben Burton recalled the vote against the initial Honourable Mention (HM) proposal from the first GA meeting, and noted that while there was not time today to resolve a new criterion for HMs, there was time to discuss whether the GA wanted HMs in some form at all. He therefore proposed the following question, with two possible answers:

Do we want Honourable Mentions at IOI, in some form?

- YES. The IC will keep searching for suitable criteria for HMs, with the GA's input, and will propose experimental changes for a new GA vote at IOI 2021.
- NO. We will end this process now, and there will be no HMs at IOI.

Mile Jovanov (IC) gave a short presentation on the case for HMs, outlining the status of the other four major Science Olympiads: IPhO, IChO, IBO and IMO all award HMs to competitors in roughly the top 70% of the contest who did not receive medals (though the different Olympiads use a range of different specific criteria).

Kevin Tran (Australia) asked what is the general goal of HMs in the other Olympiads, and whether we are aiming for the same goal. Mile answered that he believes we are indeed aiming for the same goal: in particular, reducing the number of countries who return from the IOI with no recognition. He suggested we also think about this from the viewpoint of a new country, which may be different from the viewpoint of a country that always receives medals. Kevin also suggested that the criterion chosen should reflect whatever stated goal we have in mind. Fredrik Niemelä (ITC) noted that a goal of recognising more people is directly in line with the stated goals of IOI.

Fredrik also urged that, if any change is made, that it be made well in advance so the ITC and hosts can implement it. He also asks the GA to consider side-effects, in particular awards that change the strategy of contestants. He does think it makes sense to offer an addition tier of award.

Eduard Kalinichenko (IC) said that, if the IC cannot find a clear criterion in the coming February meeting, we would expect to have a dedicated GA discussion during a face-to-face IOI 2021 in the hope of finding a criterion that can gather enough support.

We then moved to vote on Keybase on the question above. There were 54 votes for YES (keep searching for suitable criteria), 10 votes for NO (no HMs at IOI), and 2 abstentions. The IC will continue working on this with an aim towards IOI 2021.

To finish the discussion, Ben noted that – unlike the discussion in Baku – this discussion had the entire GA present. He urged that, if you have strong opinions either for or against HMs, then please stay engaged with the discussion so that we have the full spread of GA opinions as input.

## **20. Financial report**

Eljakim Schrijvers, IOI Treasurer, presented the budget (both projected and effective) for 2019-2020, and also the projected budget for 2020-2021.

This year we have, for the first time in recorded history, run the IOI at a loss. This was due to (1) a new COVID-19 contribution to help Singapore with AWS costs in hosting an online IOI two years in a row, despite having effectively only one year of sponsorship; and (2) the contingency funds were used for the first time ever, due to spending money on legal advice regarding the impact of GDPR on our online activities.

Next year our cash flow will be much more negative than this year, because we are not collecting registration fees this year (which would normally appear in next year's budget).

Steven Halim (Singapore host) thanked the IOI for their financial contribution to hosting two successive online IOIs.

Eljakim explained that the IC have agreed to keep next year's registration fee at the normal 200 EUR (i.e., it would not be doubled to account for the fact that it was zero this year).

Fredrik Niemelä (ITC) asked about the spending on development funds; it was explained that part of this was due to past funded projects taking longer than expected to be finalised due to the impact of COVID-19.

Wolfgang Pohl (Germany) asked why there were costs for the IOI Journal when we were not receiving copies this year; the answer was that the printing was arranged before the pandemic moved the IOI online. Valentina Dagienè (IC) noted that anyone who wants a copy of the journal can write to her and ask for a copy.

## **21. Announcement of projects**

Mile Jovanov (IC) described the outcomes from the last round of IOI-funded projects.

- We funded one project, which led to IOI talks on the outcomes; the proposers then decided they would do the project for free, instead of the 5000 EUR originally planned.

- Another proposal was requested for a greater sum of money but in the end was supported for 1000 EUR, and is currently in production; we expect to see the results next year.

A new call for project will be made in a few days to the GA, the IOI-Announce list and the IOI website.

## **22. Reminder of Code of Conduct**

Greg Lee, IOI President, noted that the closing ceremony will include a live chat, and asked team leaders to remind their students to be respectful to the host country and to observe the IOI Code of Conduct when typing in this live chat.

## **23. Proposals from GA members**

Ali Sharifi Zarchi (ISC) congratulated the host and committees for running a smooth IOI. He then highlighted the large number of nations that do not attend an on-site IOI, and asked if we can use our experience from an online to allow more nations to participate.

In response to this, Fredrik Niemelä noted that running an on-site IOI involves a lot of trust – in particular, trusting the team leaders. If we have new countries online, it might be more difficult to establish the same level of trust with countries who participate purely online.

Eduard Kalinichenko (IC) suggested that it is not necessarily the cost of travel that is the greatest barrier to entry for new countries, but perhaps other criteria such as the need for a national contest. If so, then allowing online entry to IOI might not raise the number of participating countries as well as we might hope.

## **24. Other business**

The Czech Republic noted the slow progress with issues such as Honourable Mentions, and suggested that we need a better process for the IC to collect input from the GA between the Olympiads. Of course the GA does not exist between Olympiads, but perhaps there could (for example) be a meeting over Zoom of the recent team leaders.

Ben Burton, IOI Secretary, supported this suggestion, and noted that there will be a question about HMs in the next IOI Survey (this was being actively discussed on Keybase amongst the committees during this GA meeting).

Mile Jovanov (IC) expressed his dissatisfaction on how the HM issue was handled during the first GA meeting this year, but also noted the exceptional circumstances of this year's IOI. He hoped that next year we would have more time to discuss this, and he promised as an IC member that we will look into all HM proposals from the community. He asked that proposals be sent to the IC, along with supporting data and statistics from previous IOIs. He also promised that next year he would try to stop anyone from speaking in opposition if they did not propose anything during the year, and that if you have strong opinions then please send it to IC this year; otherwise it would be impolite to speak in opposition to other proposals. His aim was to have a few proposals ready next year and vote on one of them during the GA.

Troy Vasiga (Canada) disagreed strongly, and Ben Burton (Secretary) explained that nobody would be banned from talking in the GA next year.

The Czech Republic finished by noting that his proposal was not specific to HMs, but was a general issue that required a general procedure for implementing rule changes to create some reasonable consensus well before the beginning of the next IOI.

Fredrik Niemelä (ITC) supported the comment from Czech Republic but also noted that the GA does not exist between IOIs, and asked IC to look into what regulations might be required to work around this issue, which is a recurring problem at IOI. An online Zoom meeting around the same time as the winter meeting (for example) could be extremely helpful. He also noted that “change nothing” is a valid opinion, and GA members should not be required to propose an alternative in order to hold such an opinion.

Steven Halim (IC) has been asked if there would be medals and/or certificates for the medallists. He said they would be given out when leaders arrive in Singapore in person at IOI 2021. However, he said they would produce electronic certificates this year. He had also been asked about socialising, and he said they had plans to encourage this when we meet in person at IOI 2021.

Finally, Steven congratulated team members who are also competing in IMO, which is running at approximately the same time as IOI.

## **25. Closing and dates for IOI 2021**

Greg Lee, IOI President, thanked Steven Halim, Sun Teck Tan, and the entire Singapore team on behalf of the GA for hosting an online IOI that has never been done before, and for doing a wonderful, wonderful job.

He announced the date of IOI 2021 as June 20-27, 2021, again hosted by Singapore. After that, IOI 2022 will be in Indonesia, IOI 2023 will be in Hungary, and IOI 2024 will be in Egypt. He asked everyone to stay safe and enjoy the closing ceremony.

This ended the General Assembly for IOI 2020. The Zoom meeting continued while we waited for the closing ceremony to begin, and GA members had a wonderful and much-needed chance to chat about everything and nothing over Zoom, in the hope that next year we could see each other face-to-face once again. (Spoiler: we didn't.)