



# International Astronomy and Astrophysics Competition

Information Flyer



# Contents

<b>1. What is IAAC?</b>	
1.1 Vision, Mission, and Values	3
1.2 What makes IAAC unique?	4
<b>2. Who can participate?</b>	
<b>3. Why participate?</b>	
3.1 Prizes and Awards	6
3.2 Awards for Ambassadors	8
3.3 Awards for Schools	8
3.4 Further Achievements	9
<b>4. Process and Rounds</b>	
4.1 Qualification Round	10
4.2 Pre-Final Round	11
4.3 Final Round	13
4.4 Timetable and Deadlines	14
<b>5. Information for Teachers and Schools</b>	15
<b>6. Ambassador Program</b>	16
<b>7. Further Information</b>	
7.1 Submission Status Page	18
7.2 Further Materials and Documents	18
7.3 Newsletter and Notifications	18
7.4 Social Media Page	18
7.5 Contact and Question	19
7.6 Organizers and Partners	19

# 1. What is IAAC?

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## 1.1 Vision, Mission, and Values

Astronomy is an outstanding scientific subject that has inspired us humans for thousands of years: By looking into the sky and imagining the earth as a tiny boat in the depth of space we feel connected and curious about all the planets, stars, and galaxies out there.

The International Astronomy and Astrophysics Competition takes this fascination sparking subject and gives students the opportunity to challenge their astronomy and astrophysics knowledge in a friendly competition and - by participating - to learn more about this interesting subject and to extend their horizon.

The International Astronomy and Astrophysics Competition has the aim to be accessible to all students from all countries regardless of their background, school, or institution. For that, the International Astronomy and Astrophysics Competition uses today's technologies and the global connection through the internet to make this competition possible: All you need is a pen, paper, and an internet connection to participate!

In general, astronomy is a great motivation for students to get in touch with science. Our society is in need of capable scientists and engineers that develop, shape and maintain the innovations of the future. The initial motivation through scientific events and competitions can encourage students to a professional career as a researcher or engineer.

We have the aim to provide a sophisticated competition platform and to enable students, parents, and teachers to get involved in the process of shaping your future.

## 1.2 What makes IAAC unique?

There are other competitions besides IAAC that promote scientific education. However, the IAAC is unique and has many advantages due to many unique features:

- **Internationality:** The International Astronomy and Astrophysics Competition is a global competition from the first round! All participants solve the same problems in every round: This enables a fair evaluation and international exchange.
- **Online Submission:** The competition uses the possibilities of the modern internet to give all students the opportunity to participate regardless of nation, region, school, or affiliation. Every student may participate on his own - there is no affiliation of your school or teacher to IAAC required to participate in this competition.
- **Research Problems:** The pre-final round includes two research problem types that only exists in the IAAC competition: It requires participants to get in touch with real scientific research papers and learn about recent scientific results in order to solve the problems. They encourage students for more advanced science and give them insights into actual research material.
- **Teacher Support and Online Tools:** We supply teachers and schools with further materials as well as an online teacher interface that allows teachers to better make use of IAAC problems in class. We also generate performance reports to each individual student.
- **IAAC Ambassador Program:** The IAAC ambassador program enables motivated students and supportive mentors to inspire youths for astronomy and astrophysics and to encourage them to participate in this competition. Since IAAC is an international competition, the ambassador program helps the coordinators of IAAC to better connect with the local students.

# 2. Who can participate?

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In order to be eligible to participate in the International Astronomy and Astrophysics Competition you have to be at least 10 years old and you have to be a student (this includes high school, college, and university). There are no other restrictions and students from all grades and all countries are invited to participate! There are two age categories:

- Junior: under 18 years on 15. May 2020.
- Youth: over 18 years on 15. May 2020.

Students from both categories will receive the same problems in all rounds, however, students that are youths (18 years or older) will have to reach more points to qualify for the next round (e.g. to qualify for the pre-final round, students that are under 18 years have to reach 15 points and students that are over 18 years have to reach 20 points).

## FAQ: I will turn 18 after the submission deadline. To which category do I belong?

The age criteria is determined by your age on the submission deadline of the qualification round (this year 15. May 2020). It does not matter if you turn 18 after the submission deadline of the qualification round.

## FAQ: Do I have to be a student to participate?

Yes, you have to be a student in a high school, college, or a university to participate. If you are currently between high school and university (e.g. gap year) and plan to start university any time soon, you are also eligible to participate.



# 3. Why participate?

The International Astronomy and Astrophysics Competition gives you the unique opportunity to unleash your science skills and to apply them to challenging problems. Participants receive certificates, awards, cash prizes, global recognition, and more!

## 3.1 Prizes and Awards

The prizes and awards worth a total of 700 USD which includes cash prizes of 600 USD: All participants (regardless of the results) receive participation certificates to honor their efforts. The overall best students can achieve a 1. prize, 2. prize, and 3. prize as well as receive special awards for being the best students from each country:

<b>1. Prize, Youth</b>	150 USD Cash Prize, Special 1. Prize Certificate
<b>2. Prize, Youth</b>	100 USD Cash Prize, Special 2. Prize Certificate
<b>3. Prize, Youth</b>	50 USD Cash Prize, Special 3. Prize Certificate
<b>1. Prize, Junior</b>	150 USD Cash Prize, Special 1. Prize Certificate
<b>2. Prize, Junior</b>	100 USD Cash Prize, Special 2. Prize Certificate
<b>3. Prize, Junior</b>	50 USD Cash Prize, Special 3. Prize Certificate
<b>National Awards</b>	Special National Award Certificate
<b>All Finalists</b>	Bronze Honour, Silver Honour or Gold Honour
<b>All Participants</b>	Official Participation Certificate + Special Honour for digital Submissions

### FAQ: What is the "Special Honour for digital Submission"?:

All participants that use professional computer programs (e.g. TeX) to write down their solutions to the qualification round and/or pre-final round receive a special honorary note on their certificates. This skill is important for the future career of any student.

## 3.2 National Awards

Because the International Astronomy and Astrophysics Competition is an international competition with participations from various countries, we honour the best participants from each participating nation with a special national award certificate.

## 3.2 Awards for Ambassadors

Special awards are given each year to the most active ambassadors to honour their excellent and responsible performance. The IAAC coordinators use the information about the number of participants that you encouraged as well as your activities for following awards:

- **1x IAAC Ambassador Award for Most Overall Participants:** The ambassador that has encouraged the most students to participate in IAAC will receive this award.
- **1x IAAC Ambassador Award for Most Finalists:** This award is received by the ambassador that was able to bring many students into the final round.
- **IAAC Ambassador Award for Excellent Encouragement:** Ambassadors that are very active and that have recorded many activities to inspire students for astronomy and to encourage them to participate in IAAC receive this award.

## 3.3 Awards for Schools

We understand the crucial role of teachers and schools for scientific education and for the encouragement of students for scientific subjects. Because of that, we award several school awards to honor the efforts of the teachers and the school:

- **1x IAAC School Award for Most Participants:** This award receives the school with the most overall participants of the qualification round to honor the efforts of the teachers for encouraging students to participate in scientific competitions.
- **1x IAAC School Award for Most Finalists:** This special award receives the school with the most students that have shown an outstanding performance and have participated in the pre-final and/or final round.
- **IAAC School Award for Excellence:** This award receives the school with many outstanding students that have achieved high results throughout the overall competition to honor the quality education in general. The coordinators decide which and how many schools receives this award of excellence.

### FAQ: How do schools participate to win the awards?

Schools participate automatically if a student registers with the school name. Please make sure that all of your students write the school name correctly and in the same way! Also, we recommend that teachers of the school registers at IAAC.

## 3.4 Further Achievements

Participating in international competitions is important for the personal development of students and it is a great achievement for your career. Furthermore, to participate in IAAC is a unique experience that will bring encouragement and motivation to all youths.



## The IAAC Network and Meetups

Winners and former participants of IAAC become automatically part of the IAAC network: This network consists of outstanding and talented students from all around the world! You will receive important notifications and opportunities. Also, the IAAC team organizes meetups in several regions of the world – all participants are welcomed to come. These meetups are announced via email and on the social media channels.

### FAQ: Do I receive a hard copy of the certificate(s)?

We will send hard copies of the certificates to all prize winners, ambassador awards, and school awards via international shipping. All national awards, participants and finalists will receive a soft copy of the certificate via email in order to lower the costs and to protect the environment. All certificates contain unique verification IDs: <https://iaac.space/verify>

# 4. Process and Rounds

The International Astronomy and Astrophysics Competition consists of three rounds: the qualification round, pre-final round, and final round. Each round has its unique features to enable a challenging and interesting experience!

## 4.1 Qualification Round

The qualification round is the first stage and consists of five astronomy problems: A, B, C, D, and E. The problems are available online on the official IAAC website ([www.iaac.space](http://www.iaac.space)). These astronomy problems vary in topic, difficulty, and subject. The problems range from knowledge skills to astrophysical calculations to make sure that everyone finds interesting problems to work out. The problems will sharpen your mind and also challenge your science, math, and astronomy skills!

### Points and Submission

Each of the problems can give you up to 5 points and there are 25 points in total. All participants of the qualification round will receive participation certificates regardless of the results. You have to score at least 15 points (junior, under 18 years) or 20 points (youth, over 18 years) to qualify for the pre-final round.

**The submission deadline is [Friday 15. May 2020 23:59 UTC+0](#).**

In order to avoid connection issues, upload errors, and other problems, we highly recommend to submit the solution several days before the official submission deadline!

The solution file may be typed digitally or it may be a clear picture of your handwritten notes. You can also write your solution in the blank space on the problems sheet. Participants that type their solutions on a computer receive a special note on their certificates. Please make



sure to upload only PDF files or image files at the submission form. Also make sure to write your name correctly as it will be used for all certificates and documents. There are no fees or registration costs to participate in the qualification round.

### Announcement and Status

The results of the qualification round will be announced on Monday 25. May 2020. You will receive an email about results, however, you can also check your submission status, your results, your performance report, and your certificates online at the submission status page.

We highly encourage you to check your submission online: [www.iaac.space/login](http://www.iaac.space/login)

## 4.2 Pre-Final Round

Participants that have solved the qualification round successfully are qualified to participate in the pre-final round. The problems will be more challenging, but even more interesting!

### Problems and Points

The pre-final round consists of 10 different problems that vary in difficulty, points, and topic.

There are three types of problems that give you four, six, and ten points:

- **4x Basic Problems:** The pre-final round includes four basic problems (lowest difficulty). A correct solution to a basic problem adds four points to the total score.
- **4x Advanced Problems:** The pre-final round includes four advanced problems that are more difficult. A correct solution to an advanced problem gives you six points.
- **2x Research Problems:** The pre-final round includes two research problems: These problems require you to read two short scientific research papers and to learn about recent scientific results in order to solve the problems or questions. This will give you the chance to get in touch with scientific research while solving the problems.

It is possible to reach up to 60 points in total. Participants have to reach at least 25 points (junior, under 18 years) or 35 points (youth, over 18 years) to qualify for the final round.

### Process and Submission

All participants that are qualified and that are registered for the pre-final round will receive the problems via email or at the online status page on Monday 15. June 2020. From that day on you have one week until Sunday 21. June 2020 to solve as many problems as possible!

You can submit your solution online via a special submission form: You can choose if you would like to submit the solution as handwritten version or as computer typed document. We recommend to write the solution in the blank space on the problems sheet of the pre-final round. Computer typed versions do not receive a special note on their certificates.

### Registration and Costs

If you succeed in the qualification round, you have the unique opportunity to participate in the pre-final round. You can register for the pre-final round via your online status page.

**The registration deadline for the pre-final round is Friday 12. June 2020.**

This global competition is attached to many costs such as human resource, technical infrastructure, materials, and much more. Our sponsors cover most of the expenses, however, to make this international opportunity possible we ask the participants to cover the registration costs of 8 USD for the pre-final round.

The registration costs are necessary to provide the resources for the evaluation of this year's competition and in particular for the comprehensive pre-final round. The registration costs will exclusively be used to make this global opportunity possible and are the only costs attached to this competition. The registration costs can be covered with any common payment option available and we will inform all qualified participants about further details. You can learn more information about the registration costs here: [Registration Costs Flyer](#)



### FAQ: Can I only participate in the qualification round and not in the pre-final round?

Sure, you can participate in the qualification round and receive your participation certificate and not register for the pre-final round. However, in this case, you would miss the opportunity to participate in any further rounds.

The results of the pre-final round will be announced on Monday 29. June 2020.

## 4.3 Final Round

Participants that have solved the pre-final round successfully are qualified to participate in the final round: a multiple-choice online exam for which students have 40 minutes time.

### Exam and Points

The final round consists of a single online exam with 40 multiple-choice questions. The questions require knowledge about astronomy and astrophysics. Finalists have 60 seconds for each question! To every question there are four possible answers given (only one is correct). A correct answer equals one point. The awards and prizes are given to the finalists with the most points in the final round.

### Teacher Registration

The exam will take place in the school of each finalist supervised by a teacher. All finalists have to select a teacher who agrees to supervise the final exam. We will send all required information and to the selected teacher who has time to conduct the exam between Monday 13. July and Friday 17. July 2020.

The teacher has to make sure that the finalist does not cheat and does not open any other browser tabs, websites, programs, or computer windows during the exam.

The results of the final round and IAAC 2020 will be announced on Monday 27. July 2020.

## 4.4 Timetable and Deadlines

Below you find a table of all relevant dates and deadlines (changes are possible, please make sure to check our website, your email, and your online status page for updates). The exact time which applies to all dates in the timetable below is 23:59 UTC+0.

Friday	15. May 2020	Submission Deadline of Qualification Round
Monday	25. May 2020	Result Announcement of Qualification Round
Friday	12. June 2020	Registration Deadline for Pre-Final Round
Monday	15. June 2020	Release of Pre-Final Round Problems
Sunday	21. June 2020	Submission Deadline of Pre-Final Round
Monday	29. June 2020	Result Announcement of Pre-Final Round
Monday	13. July 2020	First Day to take Final Exam
Friday	17. July 2020	Last Day to take Final Exam
Monday	27. July 2020	Result Announcement of Final Round



# 5. Information for Teachers and Schools

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## Inspire and Challenge Students

The International Astronomy and Astrophysics Competition is a great way to sharpen the mind of your students, to give them motivation and to challenge them with creative astronomy and astrophysics problems. The problems can be used as homework or project work as well: The competition includes various topics and difficulties. Furthermore, teachers and schools may use the IAAC competition for after-school classes or workshops. The problems will inspire students to get engaged with science and will provide a unique opportunity for talented students to challenge their skills.

## Special School Awards

Schools and teachers with many participants and an excellent performance throughout the competition receive special awards. The awards are not connected to a cash prize but are supposed to honour the efforts of the schools and of the individual teachers. For more information, please see “Awards for Schools” on page 8.

## Teacher Interface and Online Tools

All teachers and supervisor can register to access the special online teacher interface. This tool gives you the possibility to view the results and performance reports of your students, to cover the pre-final registration costs for the whole class, to supervise and upload the final exam results, and more! You can login or register as teacher on this page: [Teacher Login](#)

If you are interested in implementing an IAAC group in your school or using the IAAC problems for your curriculum or as project work, do not hesitate to get in touch. You can also find additional materials, flyers, and posters on our official website.

# 6. Ambassador Program

Since IAAC is an international competition with participants distributed all around the world, it is crucial to have official IAAC ambassadors in several schools, cities, and countries. IAAC ambassadors are being honored with an official certificate: You officially represent IAAC, you can coordinate an IAAC student group, promote IAAC in your country, and ensure that your country has vital IAAC activity! Being an IAAC ambassador is not only good for your CV and career experiences, but it gives you the unique opportunity to prove your skills as coordinator and to encourage students to get engaged with astronomy.

## Requirements

You have to be at least 14 years old, be interested in science and astronomy, and be willing to spend the time to encourage students to get engaged with astronomy and to participate in the International Astronomy and Astrophysics Competition.

## Responsibilities and Benefits

You have a variety of responsibilities such as to encourage students and youths to participate in IAAC and to inform schools, local institutes, etc. about IAAC. You also have the power to operate in the name of IAAC, to establish a strong and vital IAAC group in your region, and to inspire other youths for astronomy and science! All official IAAC ambassadors additionally receive a personal ambassador page to manage their activities and an official IAAC email address. Accepted IAAC ambassadors can login here: [Ambassador Login](#)

However, the unique opportunities are just a few of many reasons to become official IAAC ambassador: There are more benefits such as high-class career experiences and the official IAAC ambassador certificate. Possible activities as IAAC ambassador include following:

- Using social media to spread information about the IAAC opportunity.
- Informing teachers and schools about the IAAC opportunity.
- Starting an after-school astronomy group or astronomy club.

- Hosting workshops or events related to astronomy and IAAC problems.
- Contacting and collaborating with local clubs, networks, and organizations.

You find a full list of ideas for ambassador activities here: [Ambassador Activities](#)

### **Special Awards for Ambassadors**

Special awards are given each year to the most active ambassadors to honour their excellent and responsible performance. This includes awards for encouraging many participants as well as for coordinating many activities. However, your main purpose of becoming ambassador should always be to inspire youths! You find more information on page 8.

### **Application Process**

In order to verify your eligibility as official IAAC ambassador, please fill out the ambassador application form: this includes your CV and a short motivation statement that explains your reasons and plans for becoming IAAC ambassador. After you applied, the Public Relations Manager of 2020, Mr. Stefan Amberg, and other IAAC coordinators will review your application and contact you: [Ambassador Application Form](#)



# 7. Further Information

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## 7.1 Submission Status Page

We provide all participants with a great tool to check your submission, your results, your performance reports, and your certificates online. You find further information on this page and will also inform you about updates and other relevant information via your online status page. This online feature is available via this link: [www.iaac.space/status](http://www.iaac.space/status)

## 7.2 Further Materials and Documents

On our official website, you find a list of materials with additional information and that can be use to promote the International Astronomy and Astrophysics Competition. This includes:

- Information Flyers
- IAAC Posters (Color/BW)
- IAAC Paperhead
- Official Logos

## 7.3 Newsletter and Notifications

The IAAC notifications will inform you about upcoming challenges as well as general information and activities. You can subscribe to the notifications on our official website.

## 7.4 Social Media Page

In order to stay tuned and receive all recent posts and updates from IAAC make sure to visit our Facebook page. Also, we encourage you to share our post on social media to give everyone this great opportunity: [www.facebook.com/iaac.space](http://www.facebook.com/iaac.space)

## 7.5 Contact and Questions

If you have questions, comments, issues, or feedback regarding IAAC, feel free to contact your regional IAAC ambassador. You find a list of all ambassadors online on our website. You can also contact our official email, however, please note that it may take a while to respond to your individual request or problem: [info@iaac.space](mailto:info@iaac.space)

## 7.6 Organizers and Partners

The International Astronomy and Astrophysics Competition is an independent youth competition and not affiliated to any organization. You can view the full IAAC team of 2020 online. The main coordinators of the IAAC competition of 2020 are:

Team Coordinator  
Fabian Schneider  
[schneider@iaac.space](mailto:schneider@iaac.space)

Public Relations Manager  
Stefan Amberg  
[amberg@iaac.space](mailto:amberg@iaac.space)

Public Relations Work  
Robert Brock  
[brock@iaac.space](mailto:brock@iaac.space)

We thank all other involved people and coordinators that do their best to make this competition possible for students from all countries as well as our partners and sponsors:



International Youth Math Challenge  
[www.iymc.info](http://www.iymc.info)



Mreza Mira - Network for Building Peace  
[www.mreza-mira.net](http://www.mreza-mira.net)



Great Youth Opportunities Platform  
[www.greatyop.com](http://www.greatyop.com)



You Can Lead BN Platform  
<http://www.youcanleadbn.com>



Al-Koon Education Page  
[fb.com/Nahn.ALKoon](https://fb.com/Nahn.ALKoon)



All Partners and Sponsors of 2020:  
[www.iaac.space/partners](http://www.iaac.space/partners)