

6 Rue des Frères Lumière 68350 Mulhouse, France

https://iptnet.info/

# International Physicists' Tournament

Activity Report 2024/2025

#### What is the IPT?

The International Physicists' Tournament (IPT) is a competition format in which teams of six dedicated physics students compete in creativity, critical thinking, presentation skills, teamwork and debating.

Our mission is to inspire young minds and nurture scientific talent. By participating in the IPT, students gain invaluable skills in research, critical thinking, teamwork, and public speaking, which are essential for their academic and professional development. The tournament not only promotes scientific excellence but also fosters international collaboration and understanding among participants.

The debating component is uniquely represented by the Physics Fights, where teams present solutions to complex physics problems, then actively critique and improve upon each other's answers, essentially "fighting" to demonstrate the best understanding of the physics involved, all while being judged by a jury based on their analysis and presentation skills.

The event started in 2009 and it has since grown to encompass numerous countries spanning multiple continents. It was initially inspired by the International Young Physicists' Tournament (IYPT) and follows a similar model. The IPT takes place annually, in spring, at different universities around the world.

The Decision Assembly is the governing body of the International Physicists' Tournament. The national representatives from the countries who participated (at least in preselection) within the last 2 years, have the voting right at the Decision Assembly. The Executive Committee (execom) is nominated by the Decision Assembly to take control of the daily activities of the IPT. The President and Secretary of execom are elected by majority vote every two years.



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Official website of the IPT: https://iptnet.info/

Instagram: <a href="https://www.instagram.com/the\_ipt\_official/">https://www.instagram.com/the\_ipt\_official/</a>
YouTube channel: <a href="https://www.youtube.com/@ipt\_official/">https://www.youtube.com/@ipt\_official/</a>

## Executive Committee (execom) in 2024/2025

President: Anastasiia Vasylchenkova

Secretary: Alberto Rolandi

Treasurer: Kyrylo Gerashchenko

Execom members: Aakash Bhat, Matheus Pessoa, Nikolay Lysenko, Mathieu Suter, Maja Milas, Jeanne Bernard, Christos Andrikopoulos, Alisa Miloglyadova, Didar Sedghi, Nilardi

Chakraborty, Quentin Louis, Vladimir Vanovski, Rosty Matinez.

## The 2024/2025 season calendar and key projects

#### **Execom recruitment and formation of committees**

After the successful event at ETH Zurich, a few of the graduating participants and LOC members expressed interest in joining the IPT execom. After the introductory call, the execom welcomed three more members: Alisa Miloglyadova, Didar Sedghi, and Nilardi Chakraborty.

After the internal discussion during the IPT 2024, the execom decided to proceed with the two-tier structure, when the local operational decisions are being made within sub-groups - "committees", and the broader contact is maintained in the execom chat and during execom-wide meetings, where each committee updates others on their progress. Execom members could decide on which committee they want to join and the IPT president nominated the committee leader. The resulting committee partitioning is as follows:

- 1 Presidential committee: Anastasiia, Kyrylo, Mathieu, Quentin
- 2 Secretariat: Alberto, Jeanne, Aakash, Kyrylo, Mathieu, Vova
- 3 Treasury: Kyrylo, Jeanne, Quentin
- 4 IT committee: Kyrylo, Maja, Nikolay
- 5 PR committee: Aakash, Nikolay, Christos, Matheus, Anastasiia, Nilardi, Alisa, Didar
- 6 Design committee: Nikolay, Christos, Rosty, Alisa



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#### **Problem list announcement**

The problem committee, led by the IPT Secretary, worked through the long list of problem proposals in June and July 2024. The problems were discussed in light of the level of academic challenge, balance between the research topics and educational effect. The shortlist of the problems was voted by the wide IPT communities, who were given the opportunity to vote through the national representatives, the IPT newsletter and the IPT social media (see <a href="example">example</a> on Instagram). The final list was proofread by the problem committee and announced on social media (<a href="example">example</a>) and the IPT newsletter. The problems were permanently and publicly available on the IPT website and now stored on the IPT Archive website.

### Outreach to the IYPT community

IPT treasurer Kyrylo Gerashchenko has attended the IYPT (school version of the IPT) as a juror to build connections with the communities and the IYPT organisational teams. We received a few expressions of interest from the countries where the IPT is not currently present. Also a few rule modifications borrowed from the IYPT rules were borrowed for the discussion at the Decision Assembly later in the year.

#### Feedback form analysis

The presidential committee ran an analysis of the feedback form from the IPT 2024. We gladly confirm that there were no major concerns about the event itself, only a few logistical issues like the distance to the coffee break spot from the physics fight rooms. We also detect a slight positive perception of the smooth grading weight distribution and the moderator role. The action point for the next year is to accommodate longer breaks between the schedule blocks to mitigate the knockout effect of possible delays.

#### Bank account opening attempts

After the nomination during the Decision Assembly 2024 (minutes), Kyrylo and Jeanne, with help from Quentin, were trying to open an official IPT bank account for the IPT as an association. Unfortunately, only a few banks in France work with this type of organisation, and they have additional limitations, like having the treasurer's account in the same bank, or having a bank only in Mulhouse. After a few appointments and discussions with different bank officials, the IPT execom started exploring alternative routes for setting the official financial account for the association.



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#### Al guidance

The working group within the IPT execom - Matheus, Anastasiia, Quentin, Didar, Alberto - joined forces to prepare the IPT as a competition event to the accelerating development of artificial intelligence, and especially, generative AI tools, and their adoption in everyday life. As we aim to develop problem-solving and research skills, and maintain a fair competitive environment, we decided to introduce explicit guidance to the participants about our ethos and expectations on the matter. The working group developed the AI guidance for the upcoming preselection, and publicised it via the newsletter and its summary - in social media (example in <a href="Instagram">Instagram</a>).

#### **Website development**

The IT working group was developing the new website. The efforts included: setting up the new domain - <u>ipt.science</u> instead of <u>ipt.ee</u>; deciding on the color scheme together with the Design committee; developing a separate <u>conference webpage</u> for archiving the IPT Conference participants, proceedings books etc.

## **Travel grants**

This year, the IPT continued efforts in offering travel grants for teams in a weaker financial situation. The targeted communication was sent to the potential applicants and to the potential donors. This year, we were able to help teams Brazil, Croatia and Ukraine.

#### IPT grading

Shortly before the IPT 2025, the Secretary committee finalised the <u>guidance document</u> for the IPT jurors, listing the ideas and considerations about fair and constructive grading and feedback-giving.

#### IPT 2025 event

The IPT 2025 was hosted at the European Centre for Geological Education in Chęciny of the University of Warsaw. The venue is located 2 hours from Warsaw, the transfer was organised from the University of Warsaw for most of the participants, and from the Warsaw Chopin airport for late-arriving participants and for those with delayed flights.



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The venue included all the facilities needed for the event: the rooms for stay for participants and organisers, the canteen for all the meals and the gala dinner, the physics fights rooms and the auditorium for the larger events and finale. On the sightseeing day, all the delegates could enjoy the local attractions points: castle, village, query and synagogue.

The event had the following schedule which was publicised to the participants via the official website, social media and Discord server:

Time	Monday, 7 <sup>th</sup> April	Tuesday, 8 <sup>th</sup> April	Wednesday, 9 <sup>th</sup> April	Thursday, 10 <sup>th</sup> April	Friday, 11 <sup>th</sup> April	Saturday, 12 <sup>th</sup> April	Sunday, 13 <sup>th</sup> April
08:00	Arrival at the Faculty of Physics,						
09:00	University of Warsaw, ul. Pasteura, 5		Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
10:00	Optional tour around the	Opening Ceremony		Local			
11:00	Faculty of Physics Optional tour around the	- -	Physics Fight 3	Sightseeing/Indiv idual	Semifinals	Grand	Transfer to Warsaw
12:00 — -	Faculty of Physics  Lunch Break	Physics Fight 1	Trysics Figure	Exploration/High Speed	Cerminas	Finale	according to
13:00 — 14:00 —	Optional lab tours at	Lunch	Lunch	Experiences  Lunch (packed and	Lunch		prearranged schedule
15:00	the Faculty of Physic	Lunch	Lunch	distributed at breakfast)	Lunch	Lunch	
-		Physics Fight 2	Physics Fight 4	Sightseeing/Indiv idual Exploration/High Speed	Special Lecture	Group Photo	LEGEND:
16:00	Transfer to				Finalists Group Photo	Closing	Physics Fights
17:00	<b>ECEG Checiny</b>				IPT Conference	Ceremony	Semifinals
18:00				Experiences	Part 1	-	Grand Finale
19:00	Dinner	Dinner	Dinner	Dinner	Dinner		Transport - Transfers
20:00	<b>D</b>	2		21111101	IPT	Colo Dinner	Catering - Meals
	Drawing Jury		Semifinalists Ann.	Workshops	Conference Decision	Gala Dinner	Official meetings
21:00	- Meeting	Feedback Space	Decision Assembly 1		Part 2 Assembly 2		Optional events  Specials
	Meeting	,					opecials

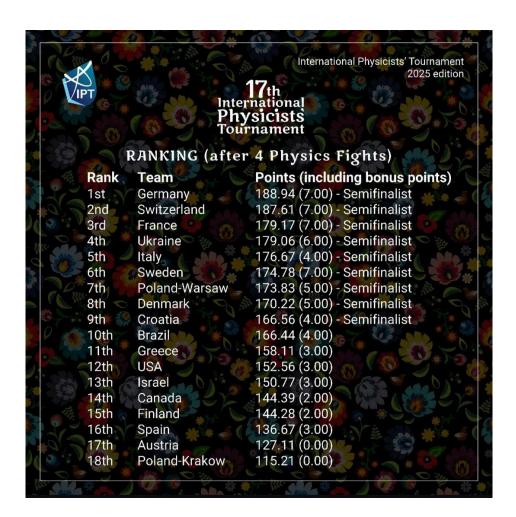
The opening ceremony featured the addresses from the IPT President Anastasiia Vasylchenkova, LOC President Krzysztof Turzynski, the University of Warsaw's Vice-Rector for Student Affairs and Quality of Teaching and Learning Maciej Raś (joined online) and the Major of Checiny Robert Jaworski.

As usual, the tournament schedule consists of 4 selective fights, semifinals and final. In contrast to previous years, by the decision from the previous Decision Assembly, we had 3 semifinals, three teams in each. This way more teams could experience more physics fights, have brighter IPT experience and have a chance to present their most interesting solutions. The 3-semifinal format was well received by both participants and jurors, though the IPT execom found it difficult to build a fair and diverse jurying teams for all the rooms. The three best teams - Switzerland, Germany and France - then went through to the final round, which was open to the public and streamed on the IPT YouTube channel. Swiss and German teams got in first place ex aequo, France received 3rd place diplomas..



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#### New teams and last minute team change

The IPT 2025 welcomed three new teams who never participated in the event before: Austria, Israel and Finland. The teams were additionally supported before and during the event, and welcomed at the opening ceremony.

Unfortunately, three days before the IPT started, team IPT announced that they could not secure the visas to come to Poland and therefore they were not able to attend and participate in the IPT. In the interest of filling the suddenly open spot and providing the opportunity to the wider community, the IPT execom contacted the runner-up team of the preselection - team Ukraine. By chance, they also happened to be the most closely located potential participant, however, for the team it was a stressful experience to prepare and reach the IPT venue on time. The team started physics fights with 2 team members, and built up to 4 team members at the second physics fight. Despite the logistical challenges, the team Ukraine reached 4th at the final ranking. The complexity of changing the team last



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minute was discussed at the Decision Assembly meeting and it was concluded that the best possible efforts were made by the teams and LOC to avoid the need of team replacement and then to mitigate the negative experience.

#### Sponsors and sponsor's lounge

This year, the IPT execom set up tight connections with two sponsors for the IPT 2025: Wincent and Jane Street. The Wincent partners were active in suggesting the activities for the event, which were successfully integrated in the schedule due to the efficient communication and collaboration between execom, LOC and Wincent team. All the sponsors and patrons were acknowledged during the opening and closing ceremony. The closing ceremony also included sponsor features with a short speech from the Wincent representative and a video about Jane Street internship.

Wincent introduced the so-called sponsor lounge. The stand was built at the hall of the conference centre, with arcade games, playstations, sofas, sweets and refreshments for the students during the sightseeing day. The main activity was the high speed experience - the opportunity to fly in the wind tunnel mimicking the parachute jump. The high speed experience was received by the participants with a great deal of excitement and interest.

### **Pilot projects**

This year, we tried quite a few new projects and activities during the IPT week. First, the execom introduced the voting platform for the participants to elect the best chair and best juror. By a great margin, the best juror award has gone to Chirstos, and the best chair ward to Jeanne.

The schedule this year included the guest lecture from Andrzej Dragan - full professor at the Faculty of Physics, and award-winning visual artist. We also hosted two workshops: Anastasiia, as academic editor, hosted a workshop on academic publishing, talking about the journal's editorial process and peer-review. Alberto and Mathieu, as LOC from 2024, hosted a workshop for future LOCs, where they had a fruitful discussion with Italian and Finnish jurors about the logistics of local organisation for the IPT.

Finally, we had a separate time window and space for safe feedback after the physics fights, for those who may prefer a quieter environment outside the physics fight rooms. This initiative did not receive much attention, but at least reiterated the importance of constructive and respectful feedback-giving.



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#### **Delay in final announcement**

The announcement of the semifinal results was delayed for a half of the day because the night before an unknown individual was noticed spying for the team Croatia while they were preparing for the semifinal. The issue was raised in the morning, and it could affect the finalists names in case one of the potential finalists was found guilty. Teams France and Ukraine, who were the most interested in gathering this kind of intelligence, had a chance to discuss the matter in confidence with the LOC president, Krzysztof and with Team Croatia team leader Maja. After the consultation with the rules, discussion between the LOC and execom, all parties concluded that these teams are not guilty in the matter, and the finalists info is not affected. Before the finalists announcement, Christos spoke to all the participants, explain the matter, its importance and its impact on the trust and continuity of the event. The guilty individual spoke to Maja on the next day, apologising for the wrong-doing.

#### **IPT Conference**

The IPT Conference took place after the semifinals. There were two sessions, before and after dinner, in a hybrid format, with both online and in-person presenters. The sessions were hosted by Mtheus, Didar and Thomasz, Matheus had to leave from the second session because of the overlap with the Decision Assembly. The IPT conference hosted 26 talks, giving the opportunity to non-finalists, national selections participants and guests to present their IPT solutions too. The best talks of the conference were also acknowledged during the closing ceremony. All the info is available on the conference webpage permanently.

## **Decision Assembly 2025**

During the IPT week, there were two meetings for the IPT governing body - the Decision Assembly. They were hosted in a hybrid format. The strategic plans, best practices, and changes in rules were discussed there. The topics raised were the hosting of the IPT 2026 in the USA (or Finland), hosting for the next years, the changes of the association status of the IPT moving its legal address from Mulhouse to Paris, election of new officers. The minutes are available.