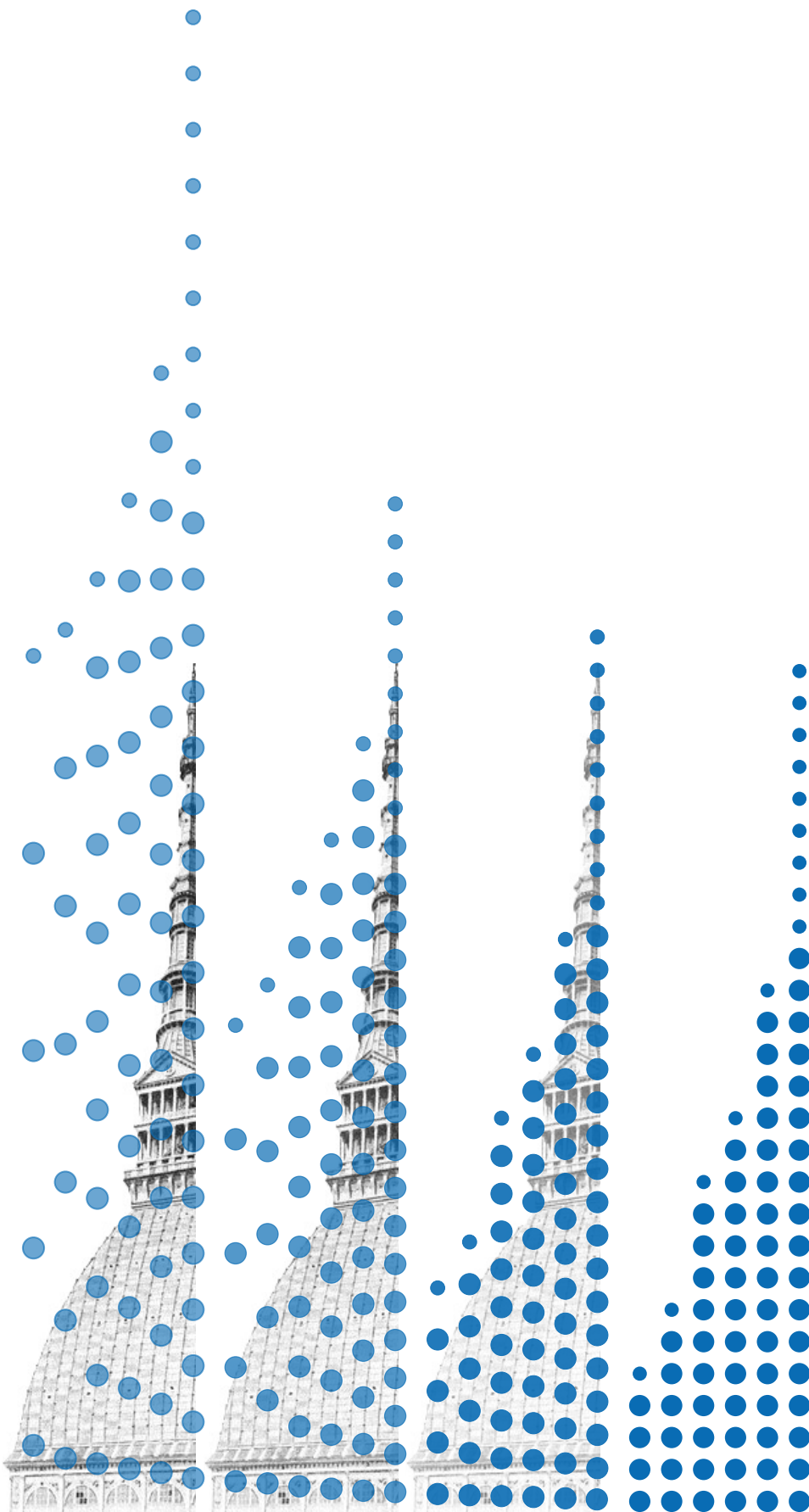


in collaboration with



with the support of



**ICPS
2017
TORINO**

presentation



Partnership & sponsorship coordinators

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Introduction

The International Conference of Physics Students (ICPS) is an event organised every year by a national member society of the International Association of Physics Students (IAPS).

Although the name might sound limiting, ICPS is much more than a conference. It is the meeting of physics students from all over the world; here, for approximately a week, many educational and social activities are offered to provide an enriching experience, both from an academic and a personal point of view. At ICPS, one can meet students from different backgrounds, discuss about science, current happenings on the international scene and present one's own research to an international audience. Seminars and guest lectures are held by world-leading experts, but students are invited to present their own talks and posters. Scientific and cultural excursions are organised to locations close to the chosen host city, so that participants may expand their interest in physics in an outstanding context.

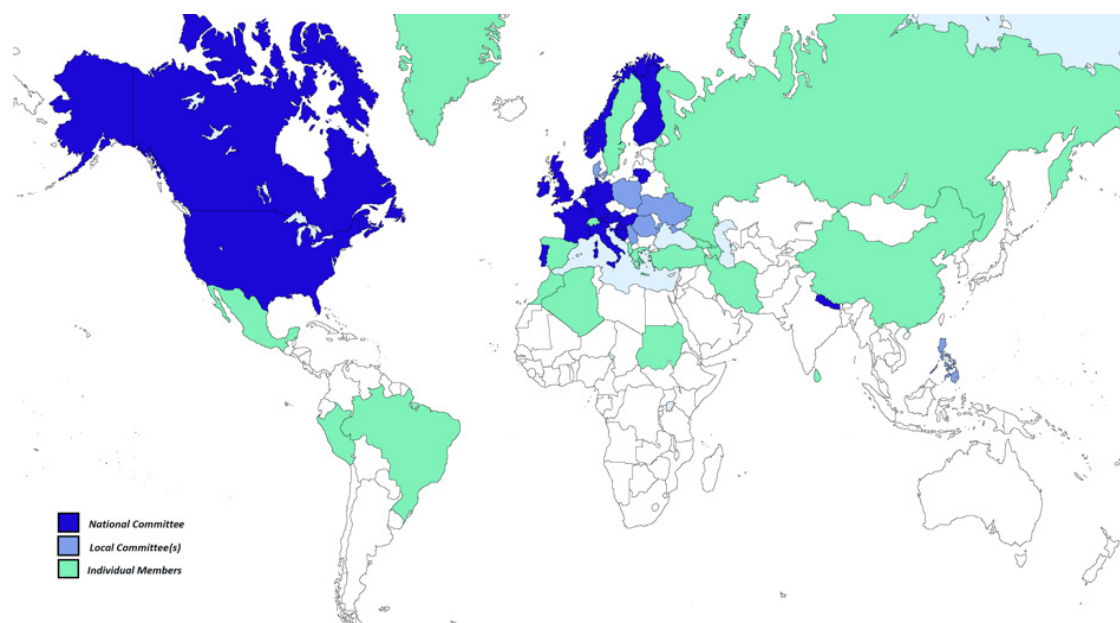


Fig 1: Countries represented within IAPS, updated on June 1st, 2016.

ICPS is usually attended by approximately 400-450 students. Most of them are European, but several non-European nations are also represented, particularly through National Committees of IAPS in North America and Asia. The map below shows the countries that are currently represented within the International Association of Physics Students.

In 1986, a group of Hungarian students organised the first meeting of physics students from around the globe: that was the first ever edition of ICPS. Because of the great success encountered by this initiative, a similar event was organised the following year, again in Hungary. IAPS was soon founded and it was decided that ICPS would be organised every year in a different country. In the following editions, ICPS was held in the following cities:

1. 1986 – Budapest, Hungary	2. 1987 – Budapest, Hungary
3. 1988 – Prague, Czech Republic	4. 1989 – Friburg, Germany
5. 1990 – Amsterdam, The Netherlands	6. 1991 – Wien, Austria
7. 1992 – Lisbon, Portugal	8. 1993 – Bodrum, Turkey
9. 1994 – S.Petersburg, Russia	10. 1995 – Copenhagen, Denmark
11. 1996 – Szeged, Hungary	12. 1997 – Wien, Austria
13. 1998 – Coimbra, Portugal	14. 1999 – Helsinki, Finland
15. 2000 – Zadar, Croatia	16. 2001 – Dublin, Ireland
17. 2002 – Budapest, Hungary	18. 2003 – Odense, Denmark
19. 2004 – Novi Sad, Serbia	20. 2005 – Coimbra, Portugal
21. 2006 – Bucharest, Romania	22. 2007 – London, United Kingdom
23. 2008 – Krakow, Poland	24. 2009 – Spalato, Croatia
25. 2010 – Graz, Austria	26. 2011 – Budapest, Hungary
27. 2012 – Utrecht, The Netherlands	28. 2013 – Edinburgh, United Kingdom
29. 2014 – Heidelberg, Germany	30. 2015 – Zagreb, Croatia
31. 2016 – Malta	

A unique characteristic of ICPS is that it is entirely organised by students for other students. Organising Committees are typically formed by national associations of physics students, members of IAPS, which during the ICPS can present their candidature to organise ICPS two years later. It is the Annual General Assembly (AGM) of IAPS that, by democratic vote, assigns the role of organisers of ICPS. The Italian Association of Physics Students (AISF) has been granted permission to host ICPS 2017 in the city of Turin.

ICPS: essential elements

ICPS always takes place in August, usually halfway through the month. The event is developed starting from a model that has now become a standard, with fixed characteristics which are commonly present at every edition. The organisers are left with wide freedom to decline or vary these elements, as well as adding more whenever appropriate.

Plenary sessions: seminars/lectures held by renowned professors or researchers whose interests spread throughout the entire span of physics topics: theoretical and experimental physics, biomedical physics, quantum optics, complex systems, etc. Memorable plenaries at ICPS have so far been given by, amongst others, Nobel Prize winners Carlo Rubbia (2011) and Gerardus 't Hooft (2012).

Parallel sessions: every participant is given the opportunity to apply to present his/her own research, following the acceptance of submitted abstracts. Such presentations are held in parallel, because of the large number of participants. Students often present the work they did as part of their Bachelor or Master thesis, as well as on the current status of their PhD projects.

Poster sessions: students can also present their research in the form of a poster. All participants are invited to take part in these sessions by asking presenters about the work that they display.

Excursions: scientific visits to national laboratories, institutes and industries are always organised. The educational side of these activities is often accompanied by times for socialisation and exploration of the local territory.

Workshops: a series of activities aimed at encountering sponsoring partners and hearing about the opportunities offered by them are often offered. Technical lessons by sponsors are also encouraged, e.g. on vacuum systems, laser technology etc. Sessions where students can practice public speaking are also commonly set up.

Annual General Assembly: this is the central associative moment of IAPS. Participation is not compulsory and students are welcome to attend alternative activities, such as sport-related ones.

ICPS programmes always include all the above elements.

ICPS in Italy

Following a successful bid to host ICPS 2017 in Italy, the Italian Association of Physics Students obtained permission to organise the Conference in its home country. This will be the very first time that the event will be held in Italy. ICPS will be in Turin, for one week, from August 7th to August 14th, 2017. The maximum number of participants is expected to be fixed to 450/500.

	07/08/2017	08/08/2017	09/08/2017	10/08/2017	11/08/2017	12/08/2017	13/08/2017	14/08/2017		
8:00	Arrival	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast		
8:30										
9:00										
9:30			Formal Opening	Guest lecture	Guest lecture	Excursions	Guest lecture	Guest lecture	Departure	
10:00										
10:30										
11:00			Coffee Break	Coffee Break	Coffee Break			Coffee Break		Coffee Break
11:30			Guest lecture	Guest lecture	Parallel Session			Parallel Session		Parallel Session
12:00										
12:30										
13:00	Registration	Lunch	Lunch							
13:30				Lunch			Lunch	Lunch		
14:00			Parallel Session	Parallel Session						
14:30					Poster session	IAPS Workshop	Poster session			
15:00										
15:30										
16:00			City Rally A	Lab visits B	City Rally B	Lab visits A	AGM	Sport		
16:30									Round table	
17:00							Parallel Session			
17:30									Closing Ceremony + photo	
18:00										
18:30						Workshops				
19:00	Dinner									
19:30										
20:00	Transfer	Dinner	Dinner	Preparation	Dinner			Dinner		
20:30						Italian food night				
21:00	Welcome ceremony in external location									
21:30		Costume Party in external club	That's amore party	Nations party	Free night	Drink & derive		Farewell party		
22:00										

Fig 2: Provisional programme of ICPS 2017.

Programme

The provisional programme of the event is shown in Fig.2. All the key characteristics described above are present in this.

We expect to hold 6 plenary sessions, with guests of international fame, as well as 6 parallel sessions of two hours each. In the latter, students will be able to present their work in talks of 15 minutes.

There will be two poster sessions, in each of which students will be invited to see and comment on the presented works. We are currently considering the addition of sponsor stands at this time, as well as at a specifically dedicated time, so as to guarantee great visibility to our supporters.

During the first two days, participants will be able to visit the city of Turin in the form of a city rally. Students will be divided in two equal groups, so that whilst one of the two visits the city, the other will be able to see the laboratories of the University of Turin.

The Annual General Assembly (AGM) of IAPS will take place on the fourth day, in parallel to a sports session. Participants will be able to take part in the assembly or in the alternative activities. Workshops will be held on the sixth day.

The fifth day will be entirely dedicated to educational excursions. Participants will be divided in groups of 50/60 people, each of which will visit laboratories, institutes and industries. Additional recreational activities will be proposed together with each excursion (more details to follow).

In the evenings, a set of social events will be organised: the "Welcome Party", the "Costume

Party”, the “Nations Party” and the “Farewell Party”. The “Welcome Party” will be held in an external location that will allow participants to appreciate the city of Turin (Castello del Valentino, Reggia Venaria, Palazzina di Caccia di Stupinigi are currently being considered). Together with these events, there will be an “Italian food night”, an evening to enjoy local food and traditions.

Locations and Accommodation

Because of the large number of participants, ICPS will need to be hosted in facilities that have sufficiently spacious lecture theatres. The University of Turin, the main institutional partner of the Italian Association of Physics Students in the organisation of ICPS, will provide access to its Einaudi Campus, conveniently located close to the city centre. In 2014, the Einaudi Campus was ranked amongst the 10 most beautiful university locations in the worldⁱ.

Accommodation for participants will mainly be provided through the Borsellino Residence of the Ente Diritto alla Studio (EDISU), which offers a capacity of 400 people. The EDISU organisation has assured availability of these spaces and offered the possibility of using additional facilities (particularly the Olimpia Residence). More participants could be hosted at the San Paolo Section of the Einaudi College. The Organising Committee assigns great importance to hosting students in the immediate vicinity of the Einaudi Campus, so as to facilitate the activities of the ICPS.

Meals could be offered by the canteen Castelfidardo, also managed by the EDISU. This structure can serve 350 people at a time. This space could also be used for some evening activities.



Fig 3: The Einaudi Campus of the University of Turin.

ⁱ <http://www.ustation.it/contenuti/foto/1727-il-campus-luigi-einaudi-di-torino-tra-i-10-edifici-universitari-pia-belli-al-mondo-la-classifica-della-cnn#18361>, accessed 01/06/16.

Excursions

Excursions have an important role in ICPS. They represent a scientific contribution and favor intercultural exchange. Generally excursions are composed of a pure scientific side and a leisure-oriented side. The scientific side allows to visit local technical-scientific facilities such as laboratories, research institutes, high-tech factories etc. The recreational part is not necessarily related to the previous one and is held at different venues.

Generally, excursions must be within a two-hour coach drive. Participants are given the choice of the excursion they prefer. Possible destinations for ICPS 2017 are:

1. **National Institute of Metrological Research (INRIM), Turin.** It is a research center internationally renowned, it has advanced laboratories in quantum optics, nano-materials, nano-particles, as well as for the precision measurement of time units.
2. **Underground laboratory of Modane (LSM), Modane.** This is an underground laboratory dedicated to the study and detection of neutrinos. It has made important contributions to the understanding of these particles in recent years.
3. **Center for Human Space Robotics (CSHR) at the Politecnico di Torino.** This deals with the study, design and construction of new generation materials, processes and components for various applications, where the interface with humans is a defining characteristic.
4. **National Center of Oncology Hadrontherapy (CNAO) in Pavia.** A center of international relevance for the study and treatment of tumors through the use of particle beams.
5. **Italian Institute of Technology (IIT) in Genoa.** This was founded to promote technological development in Italy, it is devoted to high innovation, representing the most advanced frontiers of modern technology. The challenges undertaken at the IIT cover a wide range, going from medicine to industry, from computer science to robotics, from biology to nanotechnology.
6. **Astronomical Observatory of Turin (OATo).** The educational and cultural component was greatly developed in recent years. It is possible to visit the museum and the planetarium.
7. **District heating center Iren, Moncalieri.** It is the first European system which uses post-combustion, with the recovery of electrical energy and heat, with clear environmental benefits. It is an advanced energy plant that supplies heating up to a quarter of the inhabitants of the city of Turin.
8. **Thales Alenia Space, Turin.** It is a leader in the field of aerospace technology. Important sections of satellites and International Space Station modules were built and assembled in these laboratories.
9. **COMAU, Grugliasco.** Comau has been dealing with 40 years of industrial automation. Is a recognized worldwide leader in manufacturing forward-looking solutions, automation and sustainable maintenance services.
10. **Centro Ricerche Fiat (CRF), Orbassano.** It is the research center of Fiat-Chrysler Automobiles, where new technologies are developed for vehicles and new generations of materials.
11. **Centre for Research and Technological Innovation (CRIT), Turin.** It is the research center of the RAI (Italy's national public broadcasting company), it contributes to the development of technologies related to the broadcasting system, designing and manufacturing of devices and equipment of new concepts not yet available on the market.

As mentioned, the most purely scientific side is always accompanied by a cultural / recreational one. The goals set out above will be coupled, for example, with boat travel on the river Po, mountain tours with a visit to the Fort of Exilles, wine tasting in local famous cellars, a visit to the city of Pavia, trips along the Ligurian Sea, on the Turin Hill and a visit to the Cumiana bio-park Zoom.

Participation fees

The ICPS is an event for physics students, so the participation fees must be calibrated to make the initiative accessible to everyone. In line with previous editions, fees will be fixed to:

- €190 for participants that will apply within two months of registrations opening,
- €250 for those who register later.

The organizing committee wishes to support dedicated grants to cover the participation fee of 10-15 students coming from developing countries and demonstrating excellent attitudes and results in physics.

Budget estimates

Budget estimates are shown in detail in a separate document and only commented on here. Three different scenarios are envisaged. Plan A is the richest in terms of options offered to participants. Thus its cost estimate represents an expected upper limit. Plan B is slightly less ambitious, including the same elements of the plan A, but with the reduction of some basic costs with respect to the latter. Plan C is a fallback option, in case there was need to reduce expenses or if we had a reduced number of participants. The cost estimate is reduced to the lowest limit in this case.

In all budget plans we also report on the expected revenue. As mentioned, participation fees cannot cover all the event expenditure per student, therefore contributions from sponsors are necessary.

- The organizing committee has already made contact with various entities, amongst these:
- The International Association of Physics Students (IAPS),
- The European Physical Society (EPS),
- National research organizations such as the Italian Institute for Nuclear Physics (INFN), the National Institute of Astrophysics (INAF), the National Institute of Geo-physical and Volcanology (INGV), the National Research Council (CNR), and the Italian Space Agency (ASI),
- The University of Turin and the Polytechnic of Turin
- Local institutions and organisations, such as the Piedmont Region, the City subway Turin management, the City Council of Turin,
- banking foundations of the territory,
- Private sponsors: national and international companies.

Contributions received will be used exclusively to cover the costs for the event. Being the AISF a non-profit association, the ICPS budget must necessarily break even and will be handled with exemplary transparency.

Conclusions

ICPS 2017 will be held in Italy for the first time after more than thirty editions across Europe. The organizing committee is ready to offer all participants the best that the city of Turin and its region can offer from a scientific, cultural and historical perspective. It is a unique opportunity for the country and for the city, a showcase of organizational competence and dynamism on the international stage. The consequences in economic terms could prove particularly interesting for entities operating in technical and scientific areas. ICPS is also a tremendous opportunity for cultural exchange and encounter between different backgrounds, in line with the international and comprehensive vocation of Turin, which for instance shone during the 2006 Winter Olympics. It is worth mentioning that Turin has always been compelled to international activities, as the United Nations offices of the city demonstrate. The Italian Association of Students of Physics is hence determined not to miss this important chance and is dedicated to the realization of an event of the first order, one that will leave a mark on both participants and to the city.