



UNIVERSITÀ
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Dipartimento di
Fisica



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POLO
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IPSP2021
INDUSTRIAL PROBLEM SOLVING WITH PHYSICS
Trento, Italy - 19-24 July 2021

IPSP2021
Industrial Problem Solving with Physics
19 – 24 July 2021

CALL FOR APPLICATIONS
FOR YOUNG RESEARCHERS, PHD
STUDENTS, GRADUATES AND
MASTER'S DEGREE STUDENTS



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INTRODUCTION

“Industrial Problem Solving with Physics” (IPSP) is a one-week event organized by the Department of Physics, the Physics Doctoral School and the Research Support and Knowledge Transfer Division of the University of Trento, in collaboration with Confindustria Trento and Polo Meccatronica – Trentino Sviluppo. The main goal of IPSP is to provide the young and talented researchers with the opportunity to use their knowledge and skills to tackle relevant industrial problems.

The event aims also at boosting the connection between the Department of Physics and the industrial world. The students and researchers who take part in the event will be asked to work in teams, hosted by the infrastructures of the Physics Department, to face new problems and challenges oriented towards the industry, which eventually go beyond their theoretical and experimental research activities.

The event will take place from July 19 to 24, 2021 at the Department of Physics, University of Trento.

ART. 1 – CALL FOR APPLICATIONS

The purpose of this call is to select up to **thirty (30) young researchers, i.e. PhD students and graduates, master students, research fellows and scholarship holders**, to take part in the event **IPSP2021** from July 19 to 24, 2021.

N.B. In case of restrictions caused by Covid-19 health emergency, the blended mode or alternatively the online mode will be considered for the event.

ART. 2 – DESCRIPTION OF THE EVENT

The event will span the whole week from July 19 to 24 and will be held in English. The activities will take place as scheduled:

- **July 19 morning:** the selected companies will introduce the problems to the participants who are divided in teams, one for each problem. During this stage each team will be followed by a representative from the company, as reference and technical assistance counsellor for the discussion;
- **July 19 afternoon; July 20 whole day; July 21 morning:** the teams will work autonomously on the problems, using the facilities of the Department of Physics if needed and the assistance of the Research Support and Knowledge Transfer Division of the University of Trento;
- **July 21 afternoon:** the teams will meet with the representatives of the companies and at least a member of the Scientific Committee to discuss the ideas developed during the work sessions and their problem-solving actions;



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- **July 22 and 23 whole day:** the teams will keep working to complete their research and solutions;
- **July 24 morning:** each team will discuss their work results with the companies and the Evaluation Committee. Then the most efficient and appropriate solution will be selected and acknowledged. Finally, there will be the closing ceremony.

N.B. In case of restrictions caused by Covid-19 health emergency, the blended mode or alternatively the online mode will be considered for the event.

In the following weeks: each team will write a final report based on the week activities, which will be published after the event is over.

It should be noted that the meetings on July 19, 21 and 24 will be held in English and the final report will be written in English, as well.

ART. 3 – ELIGIBILITY REQUIREMENTS

This call is addressed to **PhD students and graduates, master students, research fellows and scholarship holders, aged 35 or under on April 28, 2021**, belonging to one of the following categories:

- **PhD students and doctors from the degree programs in:**
 - Physics
 - Information and Communication Technology
 - Environmental Engineering
 - Civil, Environmental and Mechanical Engineering
 - Civil and Mechanical Structural Systems Engineering
 - Materials, Mechatronics and Systems Engineering
 - Mathematics
 - Biomolecular Science
- **Master students and graduates from the University of Trento** from the following master courses (Laurea Magistrale/Specialistica or equivalent degrees):
 - Quantitative and Computational Biology (LM8)
 - Cellular and Molecular Biotechnology (LM9)
 - Physics (LM17)
 - Computer Science (LM18)
 - Materials and Production Engineering (LM22)
 - Civil Engineering (LM23)



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- Information and Communications Engineering (LM27)
- Energy Engineering (LM30)
- Mechatronics Engineering (LM33)
- Environmental and Land Engineering (LM35)
- Mathematics (LM40)

➔ **Master students and graduates from other Italian Universities** from courses belonging to the following degrees (classi di laurea):

- LM-4 - Architettura e ingegneria edile-architettura
- LM-8 - Biotecnologie industriali
- LM-9 - Biotecnologie mediche, veterinarie e farmaceutiche
- LM-17 - Fisica
- LM-18 - Informatica
- LM-20 - Ingegneria aerospaziale e astronautica
- LM-21 - Ingegneria biomedica
- LM-22 - Ingegneria chimica
- LM-23 - Ingegneria civile
- LM-24 - Ingegneria dei sistemi edilizi
- LM-25 - Ingegneria dell'automazione
- LM-26 - Ingegneria della sicurezza
- LM-27 - Ingegneria delle telecomunicazioni
- LM-28 - Ingegneria elettrica
- LM-29 - Ingegneria elettronica
- LM-30 - Ingegneria energetica e nucleare
- LM-31 - Ingegneria gestionale
- LM-32 - Ingegneria informatica
- LM-33 - Ingegneria meccanica
- LM-34 - Ingegneria navale
- LM-35 - Ingegneria per l'ambiente e il territorio
- LM-40 - Matematica
- LM-44 - Modellistica matematico-fisica per l'ingegneria
- LM-53 - Scienza e ingegneria dei materiali
- LM-54 - Scienze chimiche
- LM-58 - Scienze dell'universo
- LM-71 - Scienze e tecnologie della chimica industriale

Students enrolled in the last two years of the following degrees are also allowed to participate:

- LM-4 C.U. - Architettura e ingegneria edile-architettura (quinquennale)

➔ **Master students and graduates from non-Italian Universities**, from a degree equivalent to one of those listed above.



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ART. 4 – ONLINE APPLICATION

In order to apply, the candidate has to fill out the **online application form** available at <http://webapps.unitn.it/Apply/en/Web/Home/convegna>, (Italian version at <http://webapps.unitn.it/Apply/it/Web/Home/convegna>). The deadline for the application submission is **April 28, 2021 at 1:00 p.m.** Applications submitted **after the deadline**, as well as incomplete or not finalized applications, **will be automatically excluded** from the evaluation process.

The candidate will provide **personal information** about his/her **academic career**, and will be asked to upload **the following documents**:

- ➔ the **curriculum vitae**
(The Europass format is available at: <https://europass.cedefop.europa.eu/editors/en/cv/compose>)
- ➔ the **academic record** (curriculum studiorum), reporting exams and marks

All applicants are also required to confirm their willingness to sign a **Non-Disclosure Agreement (NDA)**. This is mandatory for participating in the event.

The submission of the application by completing the online application form implies the acceptance of all the conditions set out in this notice.

Non-EU citizens are required to provide a copy of either the Residence Permit for EU countries or the Passport (including Schengen visa details, if required).

If the number of applications received is considered insufficient, the Organizing Committee will extend the deadline. Details of the extension **will be published on the event official website** <http://event.unitn.it/ipsp2021/en>.

For further information, you can download all the relevant documents (the full text of this call, instructions for the application, link to the online Application form, etc.) from the official website <http://event.unitn.it/ipsp2021/en>.

ART. 5 – EVALUATION OF THE APPLICATIONS

The Scientific Committee is in charge of evaluating the applications and establishing a rank for the young researchers' selection.

The names of the successful candidates will be published on the official website (<http://event.unitn.it/ipsp2021/en>) **by May 12, 2021**. Those candidates will be notified by email within the same day.



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The evaluation of the applications, at the incontestable discretion of the Scientific Committee, will be based on:

- skills in applied technical research
- suitability to the role of a young researcher and coherence towards the aims of IPSP
- education – studies in Physics will be taken into particular account
- motivation and full-time commitment to the event.
- willingness to the realization of a final report in the weeks following the event.

Teams: after the selection is concluded, the Scientific Committee will assign each young researcher the basis of his/her personal attitudes reported in the cover letter to a team, which will deal with selected industrial problem. Any change in the teams composition must be asked for within the first day of the event (July 19). It is not guaranteed, however, that the request will be satisfied.

ART. 6 – FINAL ACCEPTANCE

To complete the subscription, the selected candidates will have to pay **an admission fee of €20,00 by May 26, 2021**. Further information will be sent to the candidates via e-mail, and will be reported on the official website (<http://event.unitn.it/ipsp2021/en>), as well.

The admission fee includes:

- the participant kit
- stationery
- work materials
- meals and snacks during the event
- open access to the Physics Department facilities and to the University Wi-Fi network.



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ART. 7 – OFF-SITE CANDIDATES

Candidates coming from a **University or research centre sited in a different location from that of the event¹** and **whose residence is sited in a different location from that of the event can apply for accommodation for the whole duration of the event (from the night of Sunday July 18 to the night of Friday July 23)** in one of the University structures or other private lodging. Candidates with the above requirements can ask for the accommodation in the online application form. The lodgings will be assigned following the order of the ranking list among the candidates who have sent the request. **The exact number of the available lodgings will be declared later, based on the resources at disposal of the organization.**

ART. 8 – INELIGIBILITY OR WITHDRAWAL

Any candidate whose application fails to comply with the rules established in the ART. 3, ART. 4, ART. 5 e ART. 6 will be **automatically declared ineligible**.

The successful candidates can **decline their position within a week** from the date of publication of the admission list, **by sending an e-mail to ipsp2021@unitn.it by May 19, 2021**. Vacant positions will be progressively offered to other eligible applicants following the order of the ranking list. **In case of withdrawal the admission fee will not be reimbursed.**

ART. 9 – CONDITIONS ON THE MINIMUM NUMBER OF PARTICIPANTS

In case the minimum number of 3 participating companies and the minimum number of 18 eligible young students and researchers are not reached within the final deadline, the Evaluation Committee retains the right to cancel the event.

ART. 10 - RULES ON INTELLECTUAL PROPERTY

In the first day of the event (July 19), during the initial registration, **all participants will be asked to sign a Non-Disclosure Agreement (NDA)**. As stated in ART. 4, **the willingness to sign the agreement is mandatory to participate in the event.**

The intellectual property deriving from the activities carried out during the event is the joint property of the developers (students, PhD students and researchers), of the selected company proposing the specific problem, and of the University of Trento. Specific exploitation and enhancement agreements will be negotiated subsequently in good faith by the parties

¹ The “location of the event” encompasses all the municipality of Trento and the neighbouring territory, within a radius of 40 km.



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involved for any possible nascent intellectual property rights on the basis of agreement proposals by the Support for Scientific Research and Technology Transfer Division of the University of Trento.

Non-disposable or non-perishable materials and prototypes made by the work group used or transferred in the course of experimentation or tests in the laboratories of the companies remain the property of the University. Similarly, non-disposable or non-perishable materials and prototypes made available to companies and used or transferred in the course of experimentation or tests in the university laboratories remain the property of the company.

ART. 11 - FOR FURTHER INFORMATION

All the relevant documents about the Application for young students and researchers (the full text of this call, instructions for the application, etc.) are available on the website <http://event.unitn.it/ipsp2021/en>, which is the official communication channel of this initiative. It will be always possible to ask the Scientific Committee for further information at the email address ipsp2021@unitn.it

ART. 12 - D.LGS 196/2003 - PRIVACY PROTECTION

The candidates are acknowledged that all personal details provided within the application will be used in compliance with the Italian legislative Decree 196/2003.