





# **UNIVERSITY OF TRENTO**

- 11 departments / 4 research centres
- ≈ 16.000 students / ≈ 850 PhD students / ≈ 400 post-docs
- ≈ 750 professors / 750 administrative and technical personnel











## **DOCTORATE - PhD**



## Italian law (2021)

"The doctorate provides the necessary skills to carry out **highly qualified research activities** at universities, public bodies or private entities, also for the purpose of accessing careers in public administrations and **integrating highly innovative professional paths**."



# **DOCTORATE - PhD**

# **PhD typologies:**

- ✓ PhD in non-associated form
- ✓ *Associate doctorate*
- ✓ Industrial doctorate
- ✓ PhD of national interest



## **INDUSTRIAL DOCTORATE**

Doctoral course activated on the basis of **agreements or consortia which include companies**, including foreign companies, which carry out a **qualified research and development activity** ...

The research themes characterizing the industrial doctorate program give particular importance to the **promotion of economic development and the production system**, facilitating **joint planning** in relation to the research themes and the activities of the doctoral students ...

Calls for admission to industrial PhD courses ... can... allocate a portion of the available places to employees of partner companies or institutions engaged in highly qualified activities, admitted to the doctorate after passing the relative selection



## Goals:

- 1. **Training of professionals** with in-depth **knowledge of industrial problems** and **expertise in the search for innovative solutions** specific to the scientific sector of reference, promoting their development in innovative and frontier fields that require interdisciplinary knowledge;
- 2. Establishment of paths that enhances PhD students' entrepreneurial, managerial and innovation process management skills focused on market needs, providing specific training and opportunities to undertake professional experiences in industrial contexts with a high R&D intensity.



Founded in 2019

**Duration of the PhD:** three years

**Academic year:** November 1st - October 31st

Official language: English (foreign students are encouraged to learn

Italian within the second year)



## **Bodies of the Doctorate Program:**

- 1. Doctoral School Committee
- ... professors, researchers, experts from companies
- 2. Coordinator
- 3. Executive committee
- 4. Industrial Board
- ... can express opinions on the planning of the scientific, cultural and educational activities of the PhD course and also make proposals on the matter



Coordinator: Prof. Vincenzo M. SGLAVO

**Deputy - coordinator:** Dr. Domenico SIRACUSA

#### **Members of the Executive Committee:**

Prof. Roberta CUEL, Prof. Paolo BOSETTI, Prof. Fabrizio GRANELLI,

Prof. Maurizio GRIGIANTE, Prof. Claudio SACCHI, Dr. Stefano TONETTA





#### **FOUNDERS**







#### **ASSOCIATES**



Dipartimento di Economia e Management



Dipartimento di Ingegneria Civile, Ambientale e Meccanica





Fisica

Dipartimento di Biologia Cellulare, Computazionale e Integrata - CIBIO

#### **PARTNERS**









## **RESEARCH THEMES**

The PhD course in Industrial Innovation aims at applying a series of enabling technologies in the industrial field to create innovation.

The ultimate goal is to **train highly qualified professionals** with diversified technical and scientific skills who can contribute to solve the challenges posed by modern industry.

# Advanced materials

Batteries, Fuel cells, CO<sub>2</sub> capture, Nanotechnology

Health, Bioengineering
Smart Energy Sytems
Digital Agriculture
Automotive
Energy transition
Smart Factory
Smart Cities
Cybersecurity

# Advanced process technologies

Robotics, Mechatronics, Additive Manufacturing

# Digital technologies

5G, IoT, AI, Quantum computing



## REAL PARTNERSHIP BETWEEN COMPANIES AND RESEARCH INSTITUTION

Definition of a research project

The project is built on the basis of an industrial need

**Candidate selection** 

The company is deeply involved in the selection process

**DOCTORATE PROGRAM** 

Joint supervision of the student (academic advisor + industrial tutor)
Up to 36 months spent by the student in the company





## **MUTUAL ADVANTAGES**

Companies

#### **Talent access:**

Professionals able to respond to companies' innovation needs through research and precompetitive development

#### **Knowledge access:**

Opportunity to collaborate with international level first-class research groups to exploit advanced research outcomes

Research institution

#### **Disruptive innovation:**

Opportunity to work on research topics with high innovation potential

#### **Knowledge transfer:**

Opportunity to transfer research results to real-world contexts



## **COLLABORATION MODES**

#### **Executive**

To enhance an employee and improve his/her research-oriented innovative contribution within the company

The Employee maintains his status within the company

Requirement: the Employee must be involved in high-qualification research activities

## **Scholarship**

To collaborate **with top researchers** to support the companies' research and innovation activities

**Up to 36 months** of internship in the company during the PhD program Activation of a PhD scholarship in collaboration with UNITN/FBK to be assigned to selected candidate



## **ACADEMIC ADVISOR & INDUSTRIAL TUTOR**

**Academic Advisor:** internal or external to the Doctoral School Committee, assumes the role of supervisor

**Industrial Tutor:** co-supervisor, identified by the financing company

- They define and share a training plan for the PhD student which includes the training
  objectives of the course, the description of the research project and the methods for carrying
  out the training and research activities
- They collaborate in the management and control of the training, teaching and research activities of the PhD student



# COLLABORATION BETWEEN ACADEMIC AND INDUSTRY TUTORS

## **Definition of training goals**



**Project management** 



Multidisciplinary and customizable learning process according to the company's priority

Flexible plan established by both parties



#### **POSITIONS AND COMPANIES**

#### **Activated positions**

2019

8 (2 executive)

2020

15 (9 executive)

2021

17 (8 executive)

2022

33 (3 executive)

2023

14 (9 executive)



























































































## **NEXT CALL TIMELINE**

Identification of research themes

March-April 2024



Online application May-June 2024



Applicants' selection

July 2024

Applications for the PhD Program in Industrial Innovation are accepted from applicants who hold a Master's Degree (*Laurea Magistrale*)

Applications are also accepted from students who expect to complete their Master by October 31st 2024



#### TIMELINE OF THE PHD PROGRAM

- Coursework
- Research plan submission

Year 1



Year 2



submission

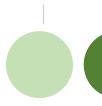
Coursework≥ 6 months

internship in industry

Progress report



Year 3



Research work



Final Exam

PhD Degree

#### Admission to 2°:

- ≥ 12 CFU (≈4 courses)
- Research plan approval
- Approval by academic advisor and industrial tutor

#### Admission to 3°:

- 21 CFU (Y1+Y2) (≈7 courses)
- Progress report approval
- Approval by academic advisor and industrial tutor

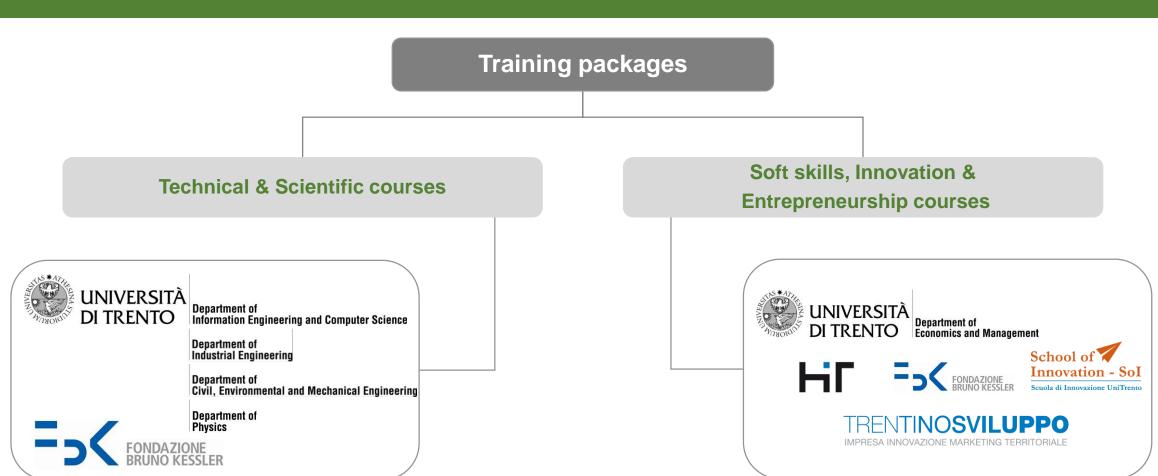
#### Admission to FE:

- ≥ 2 (industrialoriented) indexed publications (patent applications may be considered)
- Positive assessment by academic advisor and industrial tutor





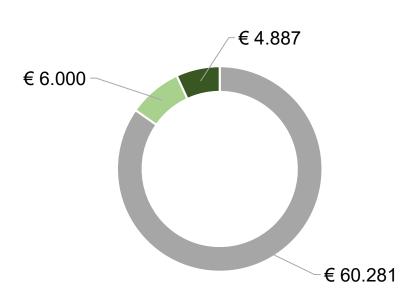
## **MULTIDISCIPLINARY TRAINING COURSES**





#### TOTAL COST FOR 3 YEARS TO BE SUSTAINED BY THE COMPANY

#### **Scholarship**



**Total:** € 71,168.16

- Scholarship
- Management fees
- PhD student personal research budget

## **Executive position**



**Total: €9.000** 

Management fees

The financial conditions of the employment contract are defined directly between the company and the applicant



#### **SCHOLARSHIP & RESEARCH BUDGET**

## **Scholarship**

• All the PhD positions are covered by scholarships. The scholarship is approx. 1.200 €/month net for 3 years. The net amount may change, depending on the country of residence and specific taxation agreements.

## Research budget

• Each student is provided with a budget for research activity amounting 4.887 € for 3 years, which can be used only for educational/research purposes, e.g. conferences, summer schools, registration to scientific associations, etc.



#### **BENEFITS**

#### Accommodation

1st year students have the priority for obtaining accommodation at student residences

## **Annual pass for public transport**

• PhD students can buy an annual bus pass (public transport within Trento province) at the reduced cost of 50 €

## Visa and stay permit

 The Welcome Office of the University of Trento supports students in the visa request, arrival, permit of stay and housing procedures





## **CONTACTS**



#### **UNITN**

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