



## **Contents**

About IIT Mandi	2
About Abo Akademi Finland	
About PhD-Double Degree	
Important Guidelines for PhD Application	
Important Dates for Admission	
Contact Details	4
IIT Mandi	4
Abo Akademi Finland	4
Double Degree Programme Academic Structure	5
Admissions are currently open under the following research projects	
General Qualifications	11
Application and Admissions	12
Fees details:	12





## **About IIT Mandi**

The Indian Institute of Technology Mandi (IIT Mandi), one of the premier technical institutes in India. IIT Mandi was established in 2009 with the aim of providing world-class education and cutting-edge research in engineering, science, and technology. Since its inception, the institute has strived to achieve excellence in education, research, and innovation.

Located in the scenic town of Mandi in the Himalayan foothills, the institute offers a unique learning experience to its students. With state-of-the-art facilities and world-class faculty members, IIT Mandi provides a conducive environment for research and learning. The institute offers undergraduate, postgraduate, and doctoral programs in various disciplines of engineering, sciences, and humanities.

At IIT Mandi, we believe in fostering an environment of innovation and creativity. Our faculty members are renowned experts in their fields and are committed to providing their students with the best possible education. With our multidisciplinary approach to education, we aim to produce graduates who are well-rounded and equipped to solve real-world problems.

We take pride in our research culture and encourage our students to engage in cutting-edge research in various fields. Our research facilities are equipped with state-of-the-art equipment and resources, providing our students with ample opportunities to explore their interests and pursue their passions.

Institute Webpage: www.iitmandi.ac.in

## About Abo Akademi Finland

Åbo Akademi University is the Swedish-language multidisciplinary academic university in Finland. We contribute to society through general learning, education and new scientific knowledge.

With campuses in Turku and Vaasa, Åbo Akademi University offers internationally renowned research and education. Through cross-border collaboration, we serve as the gateway to Finland for the Nordic countries.

Our activities are steered by the values of academic tradition in terms of the freedom of research and education as well as ethical responsibility. We endeavour to enhance diversity, inclusion, equality and sustainability.

Institute Webpage: https://www.abo.fi/en/about-abo-akademi-university/

## About Ph.D. Double Degree Programme

IIT Mandi has started new programme with Åbo Akademi University (ÅAU), Finland, aimed at fostering academic and research cooperation between the two institutions. The MoU includes broad areas of collaboration such as faculty exchange, joint research projects, co-publications, and organization of academic events.

The double degree programme will be at doctoral level and further promote other collaborations between the two partner universities at the highest level.

The mobility students will join a laboratory or research group at the partner university to perform their research for six months. They will be assigned a supervisor at the partner university, who will act as the co supervisor for the doctoral thesis. A cotutelle agreement will be signed for each doctoral candidate ensuring the smooth completion of the doctoral study. This is a great opportunity to establish impactful and sustainable international partnerships.





## **Important Guidelines for PhD Application**

- 1. Please read the instructions given in the brochure carefully before filling up the applications.
- 2. Online Application form & Information brochure (Including the admission schedule along with the important dates) is available on the institute website at the following link: <a href="https://alliance.iitmandi.ac.in/ddp/aboacademy/">https://alliance.iitmandi.ac.in/ddp/aboacademy/</a>
- 3. You are required to submit the application form ONLINE. No Downloadable Forms will be available after filling the form, you are advised to take a print of your application for your records.
- 4. For each project, candidate should submit a separate application with the application fee.
- 5. The application fee is as follows:

Category	Amount in ₹
General/EWS/OBC/OBC(NCL)/Transgender/Foreign Nationals	200
Women/SC/ST/PwD	100

- 6. OBC candidates may note that the limit for annual income is Rs. 8 Lakhs for determining the creamy layer among Other Backward Classes (OBCs) candidates. The OBC (NCL) certificate issued for the financial year 2025-26 by the Competent Authority in the prescribed format must be uploaded in the ONLIINE application form.
- 7. Economically Weaker Sections (EWS) candidates may note that the limit for annual income is Rs. 8 Lakhs for determining the eligibility for benefit under Economically Weaker Sections (EWS) reservation. The EWS certificate issued by the Competent Authority in the prescribed format must be uploaded in the ONLINE application form and submitted at the time of admission.
- 8. Seats are reserved for Economically Weaker Sections (EWS) / Other Backward Class Non-Creamy Layer (OBC-NCL) / Schedules Caste (SC) / Scheduled Tribe (ST) and Person with Benchmark Disability (PwD) categories as per Government of India norms.
- 9. You should check Institute website for results / important announcements.
- 10. You should check emails sent to your email address provided in your application for all important communications and announcements if any.
- 11. Merely fulfilling eligibility criteria does not entitle a candidate to be called for the written test/interview. Decision of Institute authorities will be final. Admission is based on GATE / Written test / Interview performance in addition to general eligibility criterion, the applicants must also satisfy the eligibility criteria specified for the respective Departments / Centres / Schools / Interdisciplinary Groups.
- 12. Candidates, if called for written test/interview should show/ bring with them (i) Photo ID Card, (ii) Printed copy of the application submitted online, (iii) Thesis / dissertation / report / publications (iv) copy of certificates and mark-sheets.





# **Important Dates for Admission**

Starting date for filling Online Application	03-12-2025
Last date for filling Online Application	15-12-2025(05:00PM)
Declaration of shortlisted candidates list	Will be Published on IIT Mandi and Abo
	Akademi Finland website
Shortlisted candidates will be informed by email	

## **Contact Details**

In case of any query related to the Ph.D. Programme admission process you may contact respective school / Centre, the contact details are:

## IIT Mandi

Name of School/Centre	Email ID	Contact No.
School of Biosciences & Bioengineering	sbboffice@iitmandi.ac.in	01905-267061
School of Chemical Sciences	scsoffice@iitmandi.ac.in	01905-267277
School of Civil & Environmental Engineering	scene_admissions@iitmandi.ac	01905-267180
	<u>.in</u>	
School of Computing and Electrical Engineering	sceeoffice@iitmandi.ac.in	01905-267071
School of Humanities & Social Sciences	shssoffice@iitmandi.ac.in	01905-267719
School of Management	somoffice@iitmandi.ac.in	01905-267119
School of Mathematical & Statistical Sciences	smssoffice@iitmandi.ac.in	01905-267929
School of Mechanical and Materials Engineering	smmeadmissions@iitmandi.ac.	01905-267138
	<u>in</u>	
School of Physical Sciences	spsoffice@iitmandi.ac.in	01905-267812
Indian Knowledge System and Mental Health	iksmha@iitmandi.ac.in	01905-267786
Application (IKSMHA)		
Centre Artificial Intelligence and Robotics (CAIR)	cairoffice@iitmandi.ac.in,	
Centre for Quantum Science and Technologies	arvindthapliyal@iitmandi.ac.in	01905-267899
(CQST)		
Centre for Human Computer Interaction (CHCI)	chcioffice@iitmandi.ac.in	01905- 267187





# Academic Structure of Ph.D. Double Degree: (individual double degree(cotutelle) agreement required to be signed at time of admission)

## **ÅBO AKADEMI UNIVERSITY is bounded by:**

- -Finnish Government Decree on University Degrees (794/2004)
- -Finnish university law (558/2009)
- -Instruction on Degrees and Studies (in force 1.8.2025)
- -Regulation on Studies, Examination and Assessment (in force 1.8.2025 with update 26.8.2025)
- -Regulation on Doctoral Studies (in force 1.11.2025)

## IIT Mandi is bounded by:

Statutes: <a href="https://www.iitmandi.ac.in/officialdocuments">https://www.iitmandi.ac.in/officialdocuments</a>

Ordinance and Regulations: <a href="https://www.iitmandi.ac.in/ordinances">https://www.iitmandi.ac.in/ordinances</a>

The detailed Academic Structure of Double Degree programme contains the following: (At the time of admission

### Article 1 - Purpose

In furtherance of the common aim of stimulating scientific cooperation and promoting the mobility of researchers, this agreement sets out the framework for joint supervision of the doctoral training of:

Doctoral researcher: [Name of doctoral researcher]

(hereafter referred to as "the doctoral researcher")

at the Åbo Akademi University

and at the Indian Institute of Technology Mandi

leading to the award of the degrees of [Specify titles of expected degrees with the name of the degree awarding university]

The [title/topic] of the doctoral researcher's thesis is: [Specify title/topic of the research project] A research plan is presented in Annex 1.

#### **Article 2 – Supervisors**

The doctoral researcher's doctoral training will be pursued under the joint supervision of:

[Name of supervisor, position, at the Åbo Akademi University]

and

[Name of supervisor, position, at Indian Institute of Technology Mandi]

(hereafter referred to as "the supervisors")

Both supervisors undertake to carry out the role of supervisor of the training of the doctoral researcher to its full extent, as defined by the regulations in force at their respective universities, and to support each other in the execution of their duties as supervisors. The two supervisors will confer regularly with regard to the progress of the doctoral researcher's degree.

Should one of the supervisors leave their university, the university's normal procedures for finding a replacement supervisor will be followed, with the involvement of the supervisor. If a suitable supervisor cannot be found, the agreement will be terminated, and the doctoral researcher will continue his/her doctoral training towards the doctoral degree at the university of his/her remaining supervisor.





#### Article 3 – Admission and doctoral researcher status

The doctoral researcher must be admitted to both universities, according to each university's prevailing admission criteria.

Throughout his/her doctoral training, the doctoral researcher will be formally enlisted as a doctoral researcher at both institutions. The doctoral researcher will annually enrol at the university where s/he is working in any academic year or part thereof. The continuous registration of the researcher is to be notified each semester by the parent institute to the host institute. The other university will arrange for the doctoral researcher the appropriate formal status to enable him/her to make short research visits and use essential facilities such as libraries and computing facilities. More extensive use of facilities and resources at the university other than the one where the doctoral researcher is registered will be by agreement between the doctoral researcher and his/her supervisors.

Continued registration for the doctoral degree, as defined in this agreement, depends on the doctoral researcher making satisfactory academic progress, as defined in the academic regulations of the two universities. Should any concerns arise, consultation will take place involving both supervisors before the appropriate procedures at the involved universities are invoked.

## **Article 4 – Funding**

The supervisors, and whenever necessary, their universities will agree upon the arrangements for the equitable distribution of any funding received from sponsors of the doctoral researcher's research project. Such funding can be utilised for the exchange visit or for the purpose specified by the funding agency. A candidate enrolling at IIT Mandi as the parent university under this agreement will be eligible to receive a fellowship in accordance with the institute's (i.e. IIT Mandi's) norms, provided they meet the eligibility criteria established by the institute or the funding agency. This enrolled candidate (at IIT Mandi as the parent university) will continue to receive the fellowship during his/her visit to the Åbo Akademi University. [Please specify how the costs incurred at the universities related to the conducting of research, examination, defence and publication of thesis, personal research scholarship/salary, travel expenses, etc. will be covered.]

#### **Article 5 – Financial responsibilities of the doctoral researcher**

Throughout his/her doctoral training, if applicable, the doctoral researcher will pay fees only at the parent University. No fee will be charged by the host institution.

[Please specify which fees should be paid at the respective universities.]

In Finland, doctoral training is free of charge for the doctoral researcher (Universities Act 558/2009, Section 8).

The doctoral researcher must have social security cover or any insurance if that is required by the relevant national legislation of either country. The responsibility of being properly insured is with the doctoral researcher. For shorter research visits in the other country, travel insurance will typically be sufficient.

The doctoral researcher is also responsible for his/her housing arrangements. According to the practices in place at the universities, the universities will provide advice/assistance in finding accommodation.

## **Article 6 – Duration of doctoral training**

The aimed time for completion of the doctoral degree is 4 years. The public oral defence is therefore expected to take place during the academic year [Please specify academic year].





Any request to extend this period or suspend the doctoral researcher's doctoral training must be jointly approved by the competent authorities of the two participating universities and any sponsoring bodies. The maximum duration of the extended period will be in line with the ordinance and regulations of the parent university/institute.

#### Article 7 – Distribution of work time

The doctoral researcher must spend at least one semester at the host university and atleast 4 semester at the home or parent university during their doctoral degree program. Extended duration beyond four years must be spent only at the parent university, if permitted.

[Please specify how the doctoral researcher's work time is to be divided between the two universities, taking into account the needs of the research and the circumstances of the doctoral researcher.]

#### **Article 8 – Exchange of information**

The two universities, through the two supervisors, will communicate to one another all the information and documentation needed for the joint supervision of the doctoral researcher's doctoral training and the preparation and submission of the doctoral thesis.

At IIT Mandi, the Program will be governed by Deanery of Academics of IIT Mandi. The Dean (Academics) will ensure that the program requirements of each institution is followed and advise on candidature related matters.

At Åbo Akademi University, the program will be governed by the Faculty of Science and Engineering/Doctoral Programme in *NN* 

IIT Mandi – Associate Dean (Research) (Email: adresearch@iitmandi.ac.in)

Åbo Akademi University – Dean Patrik Henelius (Email: <u>patrik.henelius@abo.fi</u>)

#### Administrative contact:

Åbo Akademi University, Head of Research Services, Pia-Maria Kallio (Email:pia.kallio@abo.fi)

IIT Mandi – Academic Office, (Email: acadoffice@iitmandi.ac.in)

#### **Article 9 – Coursework requirements**

The doctoral researcher must satisfy the course work requirements of both universities, which might be complementary or additional to those of the other university. Details including a scheduled study plan are specified in Annex 2.

#### Article 10 – The doctoral thesis

#### a. Written thesis

The language in which the doctoral thesis and its summary are written must take into account the requirements of the degree awarding universities.

The doctoral researcher's doctoral theses will be written in English and will consist of [Please specify: an abstract in [please specify language], monograph, publications, manuscripts, a written summary in [please specify language]...], according to the standard thesis format at the two universities.

[Please also specify, e.g. in the case of an article-based thesis, how many articles are requested, when the articles need to be published, can the articles be conference publications, if the doctoral researcher must be the first author, etc...]





The modalities of deposit and reproduction of the thesis are governed by the regulations in force in both universities.

#### b. Oral defence of thesis

The language in which the oral defence is to be conducted, must take into account the requirements of the two universities.

The oral defence will be a unique act and take place in Åbo Akademi University. The oral defence will be conducted in English. The defence will be public (i.e. open to a general audience).

#### c. Assessment of the thesis

Procedures for the examination of the written thesis and the oral defence should be as per the ordinance and regulations of the parent university. The other university must acknowledge the procedure for thesis submission and oral defense of the parent university for the award of the degree.

The process at the Åbo Akademi University is as follows:

When the doctoral thesis is ready for examination, the doctoral researcher submits it to ÅAU (Research Services). On the proposal of the head of subject the dean of the faculty appoints two pre-examiners for the thesis, one or more opponents and a custos for the public examination.

ÅAU uses the Original plagiarism detection program. All dissertations submitted for examination will be subject for plagiarism detection. The dissertation will be orally defended in English and will be recognized by both institutions.

Both pre-examiners should be docents (adjunct professors) or have corresponding scientific merits. The pre-examiners and opponent(s) should primarily be external to both degree-awarding universities, represent different universities. Neither the supervisor nor the co-authors of any collaborative publications in the thesis may act as pre-examiners or opponents.

The pre-examiners of a doctoral thesis should provide their statement to the faculty within two months of being appointed. On the basis of the statement from the pre-examiners, if the level is found to be acceptable, the dean grants the permission for the public defence of the thesis.

After the public defence, the opponent makes a statement (within 2 weeks after the public defence) to the faculty which concerns both the examination of the manuscript of the doctoral dissertation and the assessment of its public defence.

Before the grading of the dissertation the doctoral researcher is given an opportunity to comment on the statements made by the reviewers and the opponent.

The dean appoints an examination board for each public defence based on a recommendation made by the head of subject. The examination board shall be comprised of a chair and two persons from the subject in question or a closely related subject area at ÅAU or outside it. The primary occupation of at least one member shall be outside the subject in question at Åbo Akademi University. At least one member shall be a professor. The committee members shall possess the qualifications for at least docent or equivalent. Preliminary examiners may not serve as a member on the Examination Board.





When the doctoral degree is completed as a joint degree or double degree, the faculty may decide to use a different Examination Board composition in order to fulfil the wishes of the partner university.

Supervisors are heard, but cannot otherwise be present at Examination Board meetings, nor may they serve as members of the Examination Board.

The task of the Examination Board is to, together with the opponent, discuss the assessment criteria and grading scale. The Examination Board shall then issue an assessment decision, which is to be confirmed by the Faculty Board.

The process at the IIT Mandi can be found in the Ordinance and Regulation for PhD mentioned in the following link:

https://www.iitmandi.ac.in/pdf/ordinances/Ordinances phd mtech.pdf

The Faculty makes the decision concerning the grade of the thesis and the awarding of the doctoral degree.

## Article 11 – Awarding the doctoral degree

In conformity with the regulations in force within each university regarding

- the requirements for coursework (through qualifying examinations), if any;
- the requirements for the written thesis;
- the requirements for the oral examination;

each of the two universities undertakes to award its respective national doctorate to the successful doctoral researcher. The text of the degree certificate must specify that the supervision of the thesis has been jointly conducted at the two universities.

The decision to award the degree by one of the universities is not binding upon the other.

The degree requirements for each university are specified in Annex 3.

#### Article 12 - Intellectual Property and Publication Rights

The cotutelle doctoral researcher owns the copyright to his/her thesis.

Both institutions shall have the right to use the thesis and the results for non-commercial use in their education, training and research. This right is perpetual and free of any charge.

- 12.1. All intellectual property held by a Party prior to, or outside of, entering into this Agreement that is disclosed or introduced in connection with this Agreement and all materials in which such intellectual property is held, disclosed or introduced ('background intellectual property") shall remain the property of the Party introducing or disclosing it. However, that Party grants the doctoral Scholar and/or the other Party a licence to use such intellectual property for any purpose associated with the joint/double degree.
- 12.2. All rights, titles and interests in any studies, reports or materials, graphic or otherwise, prepared by the parent Institution or by the Partner Institution respectively, that is not background intellectual property or intellectual property created under clause 12.3, will belong to that university and may not be made use of except with that Institution's prior written consent.





- 12.3. Where the Institutions jointly develop intellectual property, inventions and innovations as a result of the research work of the joint doctoral Scholar working under the supervision of the joint supervisors the terms with respect to title and exploitation of such intellectual property, inventions and innovations (including but not limited to trademarks and service marks, copyright, patents, know-how designs and confidential information on the subject of such intellectual property, inventions and innovations) will be negotiated on a case-by-case basis having due regard for each Institutions policies and governance requirements and the terms and conditions imposed by any individual funding agencies or grant-making organizations. The Parties preference for such case-by- case agreements will be that the intellectual property rights created in the course of the joint degree will vest in each Institution in equal shares and that each Party may use such jointly-owned intellectual property for internal, non-commercial research and educational purposes. Save as aforesaid, nothing in this agreement shall be construed as a license or transfer or an obligation to enter into any further agreement with respect to intellectual property currently licensed to or belonging to either Institute.
- 12.4. Nothing in this Agreement will inhibit the right of a joint degree Scholar to have their thesis examined and a copy of their thesis lodged in the library of each Institution (including a digital copy).
- 12.5. Notwithstanding anything to the contrary in clause 12.3, each joint degree scholar shall own the copyright in his/her thesis.
- 12.6. The provisions of this clause 12 will survive beyond the termination of this Agreement

#### **Article 13 - Liabilities**

The parties shall be responsible for acting in accordance with the agreement.

The Parties shall be liable for direct damages caused to the Other Parties resulting from errors or omissions deliberately or negligently made by the Party.

The parties shall be responsible for acting in accordance with the agreement. The doctoral researcher is responsible for any damages and costs caused to the parties.

No party shall be considered to be in breach of this agreement if it is prevented from fulfilling its obligations under this agreement due to a restriction resulting from import or export laws and regulations and/or any delay of the granting or extension of the import or export license or any other governmental authorization.

#### Article 14 - Settlement of Disputes and Applicable Law

This agreement shall be governed, construed and interpreted in accordance with the law of the land. Law of the land as per the jurisdiction of both the university will be applicable to the effective parties.

#### **Article 15 – Entry into effect and termination**

The present agreement will take effect upon signature by the representatives of the two universities and by the doctoral researcher. It will be valid until the doctoral researcher has received his/her doctoral degree from both universities.

In case a party fundamentally violates the terms of this agreement, the other Parties shall be entitled to terminate the agreement by a written notice without delay.

This agreement can also be terminated:

• by the mutual consent of all parties or;





- by the doctoral researcher, in writing, giving a summary of the reasons for the decision or;
- by either university, if a suitable replacement supervisor cannot be found or;
- by either university, if the doctoral researcher fails to make satisfactory academic progress and the normal procedures of the university for dealing with the problem have not been effective.

## Admissions are currently open under the following research projects

#### **Project Title. Smart Plasmonic Nano-Platforms for Next-Generation Biosensing** 1 This project focuses on the design, synthesis, and application of plasmonic nanomaterials for highly sensitive biomedical sensing. By exploiting the unique optical and electronic properties of plasmonic nanostructures, we aim to develop platforms capable of detecting biological analytes with high selectivity and low detection limits. Home Institute: IIT Mandi Host Institute: Abo Akademi Finland **Supervisor:** Dr. Amit Jaiswal Supervisor: Dr. Tan-Phat Huynh School/Dept.: Biosciences and School/Dept.: Faculty of Natural Science Bioengineering and Engineering: Laboratory of Molecular Science and Engineering 2 Redox-Driven Metal(loid) Mobility in Fe-S-Organic Matter in dynamic redox environments This project will investigate the redox-controlled processes governing metal(loid) mobility in iron-sulfur-organic matter (Fe-S-OM) systems, with particular interest in geothermal and hot spring environments of the northwestern Himalayas. The study aims to understand how redox transitions, mineral transformations, and organic matter interactions influence contaminant behavior across natural and human-impacted systems. Field studies may be complemented by laboratory and modeling approaches to elucidate mechanistic controls on element cycling. The research will advance understanding of Fe-S-OM coupling in dynamic hydrogeochemical environments, contributing to sustainable management of geothermal and sulfidic landscapes. Home Institute: IIT Mandi **Host Institute:** Abo Akademi Finland Supervisor: Dr. Harshad Kulkarni Supervisor: Dr. Hanna Kaasalainen School/Dept.: School of Civil and **School/Dept.:** Science and Engineering / **Environmental Engineering** Geology

## **General Qualifications**

In the present call, the students for the PhD Double Degree will be admitted only in the Regular category. An eligible student in this category works full-time and receives assistantship from the Institute.

The candidate should fulfil the minimum eligibility criteria of the Home institution of the respective projects as mentioned in the below link.

IIT Mandi: https://cloud.iitmandi.ac.in/f/ebee554e7294407399ce/





In addition to general eligibility criterion, the applicants must also satisfy the eligibility criteria specified for the respective Projects/Departments / Centres / Schools / Interdisciplinary Groups. Over and above the general eligibility criteria for admission, candidates need to satisfy additional criteria for financial support / fellowship, as specified under specific admission categories.

The final selection process to Ph.D. JDP programme for any project will be through written test and/or interview.

## **Application and Admissions**

The admissions process will be managed by the IIT Mandi - **Abo Akademi Finland** Joint Admissions Sub-committee (JASC) constituted at the School/Department/Centre level and according to each Institution's admissions procedure. Candidates must meet the admissions requirements of both institutions. The eligibility criteria for enrolling in a joint PhD program will be same as that of a regular PhD program of the individual institute. The details of the same can be found in the PhD ordinance of the individual institute.

•IIT Mandi: <a href="https://www.iitmandi.ac.in/pdf/ordinances/Ordinances-phd-mtech.pdf">https://www.iitmandi.ac.in/pdf/ordinances/Ordinances-phd-mtech.pdf</a>

All applicants will be expected to apply through an online admissions portal.

IIT Mandi : https://academics.iitmandi.ac.in/fees

#### **Fees details:**

The selected candidate needs to pay the fee only to the Home institution and the details about the fee structure can be found below:

\*\*\*\*\*\*\*\*\*\*\*

12