

**अभिशासक परिषद् की अड़तीसवीं बैठक का  
कार्यवृत्त**

**MINUTES OF THE 38<sup>th</sup> MEETING OF THE  
BOARD OF GOVERNORS**

**29<sup>th</sup> JULY, 2023**



**भारतीय प्रौद्योगिकी संस्थान मण्डी  
कमांद- 175075, हिमाचल प्रदेश**

**Indian Institute of Technology Mandi  
Kamand – 175075, Himachal Pradesh**

**INDIAN INSTITUTE OF TECHNOLOGY MANDI  
KAMAND, HIMACHAL PRADESH**



**38<sup>th</sup> MEETING OF THE BOARD OF GOVERNORS**

**SATURDAY, JULY 29, 2023**

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**INDIAN INSTITUTE OF TECHNOLOGY MANDI****Minutes of 38<sup>th</sup> Meeting of the Board of Governors held on 29<sup>th</sup> July, 2023 from 03:00 P.M. in the Conference Room, C. V. Raman Guest House, IIT Mandi.**

The following were present:

- |     |  |                 |   |
|-----|--|-----------------|---|
| 1)  | Prof. Prem Vrat<br>Chairperson, BoG IIT Mandi  | Chairperson     |   |
| 2)  | Prof. Laxmidhar Behera<br>Director, IIT Mandi  | Member          |   |
| 3)  | Dr. Abhishek Jain<br>Special Secretary (TE)<br>Govt. of H.P.   | Member          |   |
| 4)  | Dr. Pradeep Kumar Agrawal<br>Scientist, Directorate of Special Projects,<br>D.R.D.O. Hyderabad                       | Member          |   |
| 5)  | Shri Krishan Chandra Sharma<br>Site Head & Sr. Vice President<br>LUPIN Pharma Limited, Raisen, M.P.                  | Member          |   |
| 6)  | Prof. Manoj Thakur<br>Professor<br>School of Mathematical & Statistical Sciences,<br>IIT Mandi                       | Member          |   |
| 7)  | Prof. Satinder K. Sharma<br>Professor & Dean (Faculty)<br>School of Computing & Electrical Engineering,<br>IIT Mandi | Member          |   |
| 8)  | Dr. Deepak Swami<br>Dean (I & S) In-charge, IIT Mandi  | Special Invitee | } For item no. 38.1.2,<br>38.2.2, 38.3.5, 38.3.6,<br>38.3.7 & 38.3.10 |
| 9)  | Dr. Dericks P. Shukla<br>Chairperson - SCENE, , IIT Mandi  | Special Invitee | } For item no. 38.3.1   |
| 10) | Dr. Varun Dutt<br>Associate Professor, SCEE, IIT Mandi   | Special Invitee | } For item no. 38.3.2   |
| 11) | Dr. C. S. Yadav<br>Associate Professor, SPS, IIT Mandi   | Special Invitee | } For item no. 38.3.3   |
| 12) | Dr. Bindu Radhamany<br>Chairperson - ICC, SPS, IIT Mandi   | Special Invitee | } For item no. 38.3.14<br>(3)   |
| 13) | Prof. Satinder K. Sharma<br>Registrar I/c, IIT Mandi   | Secretary       |   |



Leave of absence has been granted to the following:

- 1) Shri Hemant Sood Member  
Managing Director & Promoter  
Findoc Financial Services Group Ludhiana

**The Chairperson welcomed all present at the meeting including the special invitees.**

The Chairperson extended a warm welcome to all members including special invitees.

The Director also welcomed all members including the special invitees.

The meeting started with the presentation made by the Director on overall progress, development and new initiatives taken in the Institute. The Chairperson appreciated the new initiatives and efforts taken by the Director. The Board commended the Director for organizing the G20 and S20 events during 21<sup>st</sup> June to 30<sup>th</sup> June 2023, these events brought eminent people together from different spheres of the society viz. academia, scientists, industry, medical, social entrepreneur and reformer.

#### **BoG-38.1.0 PROCEDURAL**

The Board took cognizance of comments of the Joint Secretary (Technical Education), MoE and Member, Board received vide letter no. 16-9/2018-TS.1 dated 25/07/2023, through email on the agenda items of 38<sup>th</sup> Board meeting and thereafter, the agenda items were taken up as follows:

**Item No.:** **To confirm the minutes of the 37<sup>th</sup> meeting of the Board of**  
**BoG-38.1.1** **Governors held on 10/02/2023.**

It was noted that the minutes of 37<sup>th</sup> meeting of the Board of Governors (BoG) held on 10/02/2023 were circulated and no comments have been received. Therefore, the minutes of 37<sup>th</sup> meeting of the Board of Governors (BoG) meeting held on 10/02/2023 were confirmed, as circulated.

**Item No.** **To note Action Taken Report (ATR) on the minutes of previous**  
**BoG-38.1.2** **meetings of the Board of Governors (BoG).**

Dr. Deepak Swami, Dean (Infrastructure & Services) In-charge gave a presentation on the ongoing works along with likely date of completion.

The Board advised that all the construction-related agreements should have an upper limit on cost escalation and should include stringent penalty clause.

With these suggestions, the Board noted the ATR.

**BoG-38.2.0 ROUTINE MATTERS**

**Item No.:** To ratify the decisions / actions taken by the Chairperson, Board of  
**BoG-38.2.1** **Governors on the recommendations of the Director/designated Committee, on behalf of the Board of Governors:**

The Board perused the decisions and approvals accorded by the Chairperson, BoG.

Further, the Board thanked the Chairperson, BoG for the decisions and approvals and ratified the same.

**Item No.:** To note other developments at the Institute.

**BoG-38.2.2** The Board noted the developments at the Institute.

**(i) To report status of filling up of backlog vacancies in teaching cadre.**

The Dean (Faculty) briefed the Board about the status of filling up of backlog vacancies in teaching cadre. The Board advised that the details on educational qualifications, institutions and experience details of the applicants may also be mentioned in the report.

The Director updated the Board that the process for recruitment of the Registrar has been initiated and likely to be completed soon.

Further, the Board noted the development and the progress report.

**(ii) Details regarding Global Tender Enquiry (GTE) Proposals.**

The Board noted the update on case for procurement of Time-Resolved Terahertz Setup - Qty. 1 No., costing Rs.42,00,000/- (initiated by the SRIC section) that the proposal got the approval of the MoE on 17.07.2023.

**(ix) Implementation of Vidya Lakshmi scheme of MoE, Govt. of India.**

Regarding the implementation of the Vidya Lakshmi scheme, the Board approved the payment of ~Rs. 1.4 crore from IRG, as recommended by the Finance Committee, however the Board advised and recommended that MoE should consider the payment in this scheme from OH-31.

**(x) Matter of Arbitration between: M/s SPS Infrabuild Pvt. Ltd. Vs Union of India against agreement no. 02/EE/IIT MPD-1/2017-18.**

Arbitrator has given award in favor of contractor amounting to Rs. 1.10 Cr. on 19<sup>th</sup> April, 2023. Additional Director General, Chandigarh has intimated that all the claims i.e. claim No. 1 to 15 of award has been accepted for Rs. 93.65 lacs + 18% GST. IIT Mandi



has sanctioned and deposited the awarded amount of Rs. 1.10 Cr. to CPWD as per the recommendation of B&WC. The same was placed to the FC also in its 34<sup>th</sup> meeting held on 29.07.2023. The Board also advised to represent the arbitration cases decisions in the higher legal bodies if it is not in favour of IIT Mandi, if applicable.

The Board has noted the status and advised for closure of the matter.

**(xi) Matter of Arbitration between: M/s SPS Infrabuild Pvt. Ltd. Vs Union of India against agreement no. 04/EE/IIT MPD-1/2017-18.**

Arbitrator has given award in favor of contractor for an amount of Rs. 2.88 Cr. on 29<sup>th</sup> May, 2023. Executive Engineer CPWD, Shimla has intimated that legal opinion is awaited, after obtaining the opinion the arbitration award will further forwarded to Additional Director General, CPWD, Chandigarh for approval. The arbitrator has given a time till 16-08-2023 from the date of award i.e. 29-05-2023 for making payment, failing this simple interest @ 9.5% w.e.f. 17-08-2023 shall be payable on award amount (Principal amount + cost) till date of actual payment.

The Finance Committee (FC) in its 34<sup>th</sup> meeting held on 29.07.2023 noted the developments and recommended the matter to be discussed in BoG meeting. FC also pointed out that arbitration cases needed to be defended well and the agencies going to arbitration should be discouraged to participate in the future bids for the Institute works. Possibilities may also be explored to bear the arbitration cost by the CPWD instead of charging it to IIT Mandi in future. The Board also advised to represent the arbitration cases decisions in the higher legal bodies if it is not in favour of IIT Mandi, if applicable.

After detailed deliberation, the Board has approved the funds from HEFA loan.

**(xii) Proposal for Construction of Gabion wall in sliding zone near B9 hostel and Water channel toward valley side of B9 hostel at South Campus of IIT Mandi.**

It has been noticed that in the event of each rainfall, surface water erodes the soil in the vicinity of the hostel block causing landslide. Therefore, it is necessary to channelize the incoming storm-water by constructing a drain from Neri-Navalaya road adjacent to B-9 hostel block toward river side. An additional protection is required by providing Gabion wall in-front of B-9 hostel to prevent landslide. The cost estimate was prepared on the basis of DSR 2021 for an amount of Rs. 2.54 Cr. This work is to be carried out through Construction Wing of IIT Mandi as approved by B&WC. The funds to be charged to HEFA Loan. The same was placed to FC also in



its 34<sup>th</sup> meeting held on 29.07.2023, the FC further recommended to report the matter to BoG.

The Board noted the development on the matter.

**(xiii) Proposal for construction of Student Gathering and Activity area (SAGA) adjacent to B-8, B-19, B-16 & B-23 hostel blocks at North Campus of IIT Mandi.**

Considering the requirement of students and discussion held with Dean (students), proposal to construct the student gathering and activity area\* (4000 sqm) was marked for development in the North campus. Following are the facilities to be developed:

- Basketball court,
- badminton court,
- 2.4 mtr. Wide paved pedestrian path,
- seating steps,
- planters for tree,
- juice corner, rain shelter etc.

The cost estimate for the same was prepared, which was amounting to Rs. 2.57 Cr. for civil work (based on DSR 2021) and electrical work (based on DSR 2022).

This matter was reported to BoG with the submission that this work will now come under the proposed infrastructure work to be constructed under 4<sup>th</sup> term HEFA loan for which a comprehensive estimate of Rs. 326 Cr. (without cost index) has been prepared and approved.

The BoG deliberated the issue and noted the change in the proposal as stated above. This item will thus be discontinued in future ATR.

**(xiv) Construction of hostel for undergraduate students at IIT Mandi.**

The Proposal for construction of UG hostel was approved in 36<sup>th</sup> BoG meeting as agenda item No. 36.3.5. Hostel accommodation facilities are required for students on urgent basis. Therefore, the work for hostel block is awarded and fund source was OH-35 fund.

Considering the present scenario of funds, releasing a bulk amount of 14.18 Cr. as sanctioned for this work is not possible from OH-35. Therefore, to ensure timely completion and flow of funds for the hostel construction, it was earlier proposed that source of fund for this work will be Institute internal resources.

The BoG noted the change in source of funds for construction of the undergraduate hostel from Institute Internal Resource instead of OH-35, as considered by the FC.



**(xv) Construction of hostel for married research scholar cum project employees.**

The Proposal for construction of hostel for married research scholar cum project employees was approved in 36<sup>th</sup> BoG meeting as agenda item No. 36.3.3. for an amount of 10 Cr. from Rs. 275 Cr. HEFA loan savings. Considering the shortage of technical staff, B&WC recommended to execute the hostel block through CPWD. An MOU has been signed in this regard with CPWD (dated 04/07/2023).

The Finance Committee approved the action with the caution that the deviation does not go beyond the specified limit and work is completed in time. For speedy construction there should be stringent penalty clauses. The FC recommended to report this matter to the BoG.

The Board noted the development.

With these the other matters as reported vide agenda item no. 38.2.2 were noted by the BoG.

**BoG-38.3.0 MATTERS DISCUSSED / RECOMMENDED BY THE STATUTORY BODIES / COMMITTEES/FUNCTIONARIES****Item No.: BoG-38.3.1 Presentation by the School of Civil & Environmental Engineering (SCENE).**

Dr. Dericks Praise Shukla – SCENE gave a presentation of the School of Civil & Environmental Engineering (SCENE) about the school providing a brief overview of the school, growth projections for the school along with various initiatives that the school is undertaking to enhance its visibility and accelerate its growth. The Board appreciated the efforts and achievements of the school and suggested the following:

- To increase the PhD intake to 6 or 7 per faculty.
- Efforts should also be made to achieve 0.6 PhD graduations per faculty per year.
- To increase the citations to 150-200 per year per faculty.
- Publication per faculty per year to be 3.
- To recruit faculty in Transportation.
- Increase the Consultancy project funding - 2-5 Cr per year.
- Develop better relationships with the State Administration, so that consultancy work can be obtained.

**Item No.: BoG-38.3.2 To consider the proposal for establishment of a new Centre: Human-Computer Interaction (HCI).**

Dr. Varun Dutt, Associate Professor, SCEE presented the proposal for establishing a new Human-Computer Interaction (HCI) Centre at IIT



Mandi to the Board of Governors (BoG), attached as **Annexure-1, Page No. 15 to 21**. The BoG appreciated the proposal and after deliberations approved the establishment of the HCI Centre at IIT Mandi.

**Item No.:** To consider the proposal for the establishment of the Centre for  
**BoG-38.3.3** **Quantum Science and Technologies.**

Dr. C. S. Yadav, Associate Professor, School of Physical Sciences (SPS) gave a presentation on the establishment of the Centre for Quantum Science and Technologies.

The Board noted that the primary objectives of the center is to develop an Optical quantum computer and establish a state-of-the-art prototype facility for a quantum computer and cryptographic device. Further, the Board advised that initially the funds may be sanctioned from the Institute for establishing the Centre. However, efforts should be made to generate funding from outside the Institute specially from the National Quantum Mission.

After detailed deliberations, the Board approved the establishment of the Centre for Quantum Science and Technologies, attached as **Annexure-2, Page No. 22 to 26**.

**Item No.:** To consider the reconstitution of the Building & Works and  
**BoG-38.3.4** **Committee (B&WC) of the Institute.**

The Registrar I/c presented the item before the Board and updated that the term of the existing B&WC is up to 15.08.2023. After brief discussion, the Board approved the reconstitution of the Building & Works and Committee (B&WC) of the Institute as under:

Sr. No.	Name
1.	<b>Chair:</b> Director, IIT Mandi – (Ex-Officio)
<b>Members:</b>	
2.	Dean (I&S), IIT Mandi - (Ex-Officio)
3.	Prof. Samit Ray Chaudhuri, Dean (Infrastructure & Planning) & Professor, Department of Civil Engineering, IIT Kanpur.
4.	Dr. Sudip Paul, General Manager (Structural Department), Engineers India Limited, Gurugram.
5.	Er. Shambhu Nath Rai, ADG, CPWD, Chandigarh
6.	Coordinator Institute Planning & Design Cell, IIT Mandi
7.	Superintending Engineer – Member Secretary (Ex-Officio)

The tenure of the B&WC will be two years w.e.f. 16.08.2023.



**Item No.:** To consider the purchase of 6 nos. of buses for IIT Mandi.  
**BoG-38.3.5**

Dr. Deepak Swami, Dean (Infrastructure & Services) In-charge briefed the Board about the purchase of 6 nos. of buses for IIT Mandi.

The Board deliberated on the proposal and advised having an optimal fleet mix of medium (30-35 seats) and smaller (11-25 seats) capacity buses.

Further, the Board advised that the cost-benefit ratio is quite simplified and the component of depreciation, inflation etc. may also be considered. The Institute may conduct the proper life cycle analysis for the buses at its own level, as recommended by the Finance Committee in its 34<sup>th</sup> meeting held on 29.07.2023.

After these suggestions the Board resolved to approve the recommendations of the Finance Committee to purchase the buses.

**Item No.:** To consider the proposal for creation of 50 Nos. faculty housing apartments to cater future expansion of IIT Mandi/HEFA proposal.  
**BoG-38.3.6**

Dr. Deepak Swami, Dean (Infrastructure & Services) In-charge gave a presentation for creation of 50 Nos. faculty housing apartments to cater future expansion of IIT Mandi/HEFA proposal.

B&WC in its 39<sup>th</sup> meeting held on dated 22.06.2023 has approved the proposal to build 50- 3 BHK apartments from IRG. However, based on the recent communication from MoE as well as the comment of MoE on this agenda, B&WC meeting was held on 28.07.2023 to consider a bigger infrastructure development plan under 90:10. B&WC approved the proposed HEFA loan of Rs. 326 Crores (without cost index) to construct 150 nos. 3BHK, 150 nos. 2 BHK apartments, 2 academic buildings, and a student activity centre that includes indoor sports facilities.

The above proposal (enclosed as **Annexure-3; Page No. 27**) was placed to the Finance Committee (FC) in its 34<sup>th</sup> meeting held on 29.07.2023 and FC recommended the matter to the Board.

After detailed deliberations, the Board approved the recommendation of the Finance Committee for construction of the above infrastructure with an amount of Rs. 326 Cr. (without cost index) from HEFA 4<sup>th</sup> term loan.

**Item No.:** To consider the Memorandum of Understanding between the Central Public Works Department (CPWD) and the Indian Institute of Technology Mandi for Development of New assets of IIT Mandi at Kamand (HP).  
**BoG-38.3.7**

Dr. Deepak Swami, Dean (Infrastructure & Services) In-charge briefed the item to the Board.



IIT Mandi has completed all construction activities under phase-1 and Phase-2. In phase-3, Institute has got a HEFA loan of 333.72 Cr for the construction of hostels, academic blocks and lecture hall complex. BWC in its 39<sup>th</sup> meeting (dated 22/06/2023) recommended CPWD be awarded the construction under this HEFA loan. Institute signed an MOU with CPWD (dated 04/07/2023).

The matter was discussed in the 34<sup>th</sup> FC meeting held on 29.07.2023 which advised that in addition to this general memorandum of understanding (MoU) which has been signed, a separate memorandum of agreement (MoA) should be signed project-wise with upper limit of cost escalation and stringent penalty clauses.

After detailed deliberation, the Board approved the recommendations of the Finance Committee.

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**Item No.:** To consider the Institute level policy decisions through Institute  
**BoG-38.3.9** Standing Committee (ISC) or Deans' Committee.

The Registrar I/c briefed the Board about the item.

After detailed discussions, the Board approved to dissolve the Institute Standing Committee (ISC) and formation of the Deans' Committee in its place. The composition of the Deans' Committee will be as under:

- a) Director – Chairperson
- b) All the Deans of the Institute – Member
- c) Registrar – Secretary\*

*\* In case the charge of the Registrar is with a Dean, then she/he would be the Member Secretary.*

The terms of reference of the Deans' Committee would be similar to the erstwhile ISC.

**Item No.:** To consider the proposal for Eco-conscious campus.  
**BoG-38.3.10**

Dr. Deepak Swami, Dean (Infrastructure & Services) In-charge briefed the item to the Board.

The Board appreciated the objectives of having the Eco-conscious campus. Further, the Chairperson, BoG advised that the efforts should

be made to persuade the students to adopt vegetarian food habits. After detailed deliberation, the Board approved the proposal.

**Item No.: To consider the House Allotment Policy/rules.**

**BoG-38.3.11**

The Registrar I/c and Chair – House Allotment Committee gave a presentation on the House Allotment Policy/rules.

After detailed deliberations, the Board approved the House Allotment Policy/rules attached as **Annexure-4; Page No. 28 to 39.**

**Item No.: To consider the proposal of conferment of Honorary Professor at the Institute.**

**BoG-38.3.12**

Prof. Satinder Sharma, Dean (Faculty) and member Board presented the item.

The Board approved the proposal with an advice that the persons of exceptional merit and eminence may be honoured by offering Honorary professorship.

**Item No.: To consider the proposal for offering position of Adjunct Professor & Professor of Practice for the IKSMHA Centre.**

**BoG-38.3.13**

Prof. Satinder Sharma, Dean (Faculty) and member Board presented the item.

After discussions, the Board approved to offer the position of Adjunct Professor & Professor of Practice for the IKSMHA Centre to Dr. Vadim Tuneev and Mr. Hide Segusa respectively.

**Item No.: Additional agenda placed on the table with the permission of the Chairman, if any.**

**BoG-38.3.14**

**1. To consider the fee structure for the BS and IMBA programme.**

Prof. Manoj Thakur, Chairperson, School of Management (SoM) and member Board presented the fee structure for the BS and IMBA program.

After discussion, the Board approved the following:

- a) The fee structure for the BS and all the new B.Tech. programme is to be kept identical with that of the existing BTech. programme of IIT Mandi.
- b) The fee structure for the IMBA programme is attached as **Anneuxre-5; Page No. 40 to 41.**

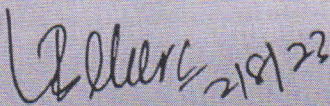


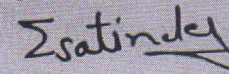
2. To consider the establishment of the Holistic (Ayurveda) Wellness Centre.

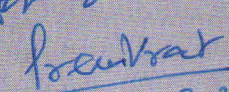
Dr. Varun Dutt presented the proposal for establishing a new Holistic (Ayurveda) Wellness Centre at IIT Mandi to the Board of Governors (BoG) (the proposal for the Holistic (Ayurveda) Wellness Centre is attached as Annexure-6; Page No. 42 to 49). The BoG appreciated the proposal and approved the establishment of the Holistic (Ayurveda) Wellness Centre at IIT Mandi.

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Thereafter, the meeting concluded with a vote of thanks to the Chair.

  
Prof. Laxmidhar Behera  
Director, IIT Mandi

  
2-8-2023  
Prof. Satinder K. Sharma  
Registrar I/c & Secretary, BoG

Approved for circulation to  
members of BoG for comments, if any.  
  
Chairperson, Board of Governors  
04.08.2023



# Proposal for a Human-Computer Interaction (HCI) Centre at IIT Mandi

## Introduction

Allen Newell, Herbert A. Simon, and Alan J. Perlis documented a letter to the journal *Science* in 1967 entitled "What is Computer Science?" In this letter, these researchers **articulated that computer science, a novel discipline, should include an investigation of the phenomena surrounding computers, not just the theory and design of the computation devices themselves.** The **interdisciplinary field of Human-Computer Interaction (HCI) investigates this phenomenon surrounding computers.** HCI is a field of study that focuses on designing, developing, and evaluating computer systems and other interactive technologies that people use. It is an interdisciplinary field that combines concepts and methods from computer science, cognitive science, AI, design, engineering, and other related fields. HCI aims to create computer systems and other interactive technologies that are easy to use, efficient, and effective for human users. This includes designing user interfaces that are intuitive and user-friendly, developing input devices and interaction techniques that are appropriate for the user's needs, and evaluating the system's usability. The scope of HCI is broad, ranging from desktop and mobile applications to augmented and virtual reality environments and from social media platforms to medical devices and applications. HCI researchers and practitioners focus on various topics, such as user experience design, user interface design, usability testing, accessibility, AI, and cognitive science.

Given the importance of HCI as a discipline and the emerging technologies that interact with human users, **it is proposed to have a Human-Computer Interaction (HCI) Centre at IIT Mandi.** The HCI Centre would be a research centre that would significantly impact academia and industry by advancing research in the field of HCI, creating new technologies, and improving the user experience for a wide range of applications.

Most recently, IIT Mandi iHub and HCI Foundation (iHub), a section-8 company, was created by the Government of India on the IIT Mandi campus with a mission to make IIT Mandi a "go-to" place in India for technology development, skill development, translation, and commercialization in the HCI area. **While the iHub focuses on technology development, skill development, incubation of start-ups in HCI and collaborating with industry partners, technology translation, and commercialization in the HCI area, the HCI Centre at IIT Mandi would provide an academic and research environment that would focus on research and prototype development in the HCI area, graduate programs in the HCI areas, and collaborative research with industry via faculty in the HCI area.** Thus, the HCI Centre would actively collaborate with the iHub and **provide the academic and research foundation for several of the outward/industry adoption and societal activities executed by the iHub.** A few motivations for establishing an HCI Centre at IIT Mandi include

- **Interdisciplinary Collaboration:** HCI research requires a broad range of expertise, including computer science, cognitive science, psychology, design, AI, and engineering. An HCI Centre at IIT Mandi would encourage collaboration among researchers with different backgrounds



and skill sets, leading to a more comprehensive understanding of the field and the development of industry-relevant innovative solutions.

- **Addressing Societal Challenges:** HCI can address real-world problems, such as accessibility, health, education, defense and security, environment, and sustainability. An HCI Centre at IIT Mandi could focus on creating technology solutions to address industry problems that would positively impact society and potentially improve the lives of people around the world.
  - **Industry Partnerships:** An HCI Centre at IIT Mandi could establish partnerships with industry leaders, providing opportunities for students and researchers to work on real-world problems and gain experience applying HCI research to industry settings. Such partnerships (including those with the iHub) can also provide funding for research and help bring new technologies to market.
  - **Education and Training:** An HCI Centre at IIT Mandi could provide educational opportunities at the Certificate, Master, and Ph.D. levels for students and professionals in the field of HCI. This would include degree programs that could help to build the next generation of HCI researchers and practitioners.
- 

Overall, an HCI Centre at IIT Mandi could play a significant role in advancing the field of HCI, developing new technologies, and improving the user experience for a wide range of applications.

## Objectives

The HCI Centre at IIT Mandi will have the following objectives:

**Outcome-based Research:** One of the primary objectives of the HCI Centre is to conduct outcome-based research in human-computer interaction that address societal needs. The Centre can undertake research projects to develop innovative technologies, user interfaces, and interaction techniques. The research can focus on cognitive technologies, brain-computer interfaces, cognitive enhancement, different modalities of smell, taste, and touch, virtual and augmented reality, social computing, machine learning, and intelligent user interfaces.

**Train Students and Professionals:** Another objective of the HCI Centre is to train the next generation of HCI researchers and practitioners. The Centre can offer Certificate, Master, and Ph.D. programs, specializations, training programs, and workshops to students and professionals in the field of HCI. The Centre can also provide opportunities for students to gain practical experience through internships, research projects, and industry collaborations.

**Foster Collaborations:** The HCI Centre will foster collaboration among researchers, academics, industry professionals, and other stakeholders. The Centre can host seminars, conferences, and workshops to bring together experts in the field of HCI and provide a platform for exchanging ideas and sharing knowledge. This can promote interdisciplinary collaboration, essential for solving complex problems in HCI.

**Improve User Experience:** The HCI Centre will work towards improving the user experience of interactive technologies. The Centre can conduct usability studies, user experience evaluations, and



accessibility testing to identify and address issues that may hinder the usability and effectiveness of interactive systems.

**Address Societal Challenges:** The HCI Centre will address societal challenges by developing HCI solutions that positively impact society. The Centre can focus on accessibility, health, education, defense and security, environment, sustainability, etc., and develop technologies that can significantly impact people's lives.

**Resource Generation:** The HCI Centre will try to generate monetary resources via teaching, skill development, research, and leasing the bleeding-edge lab equipment and other facilities to become self-sustaining over time eventually.

Overall, the HCI Centre at IIT Mandi will have several objectives, including conducting research, and training students and professionals, fostering collaborations, improving user experience, addressing societal challenges, and resource generation. These activities of the HCI Centre are planned to be undertaken independently or in conjunction with the iHub in HCI.

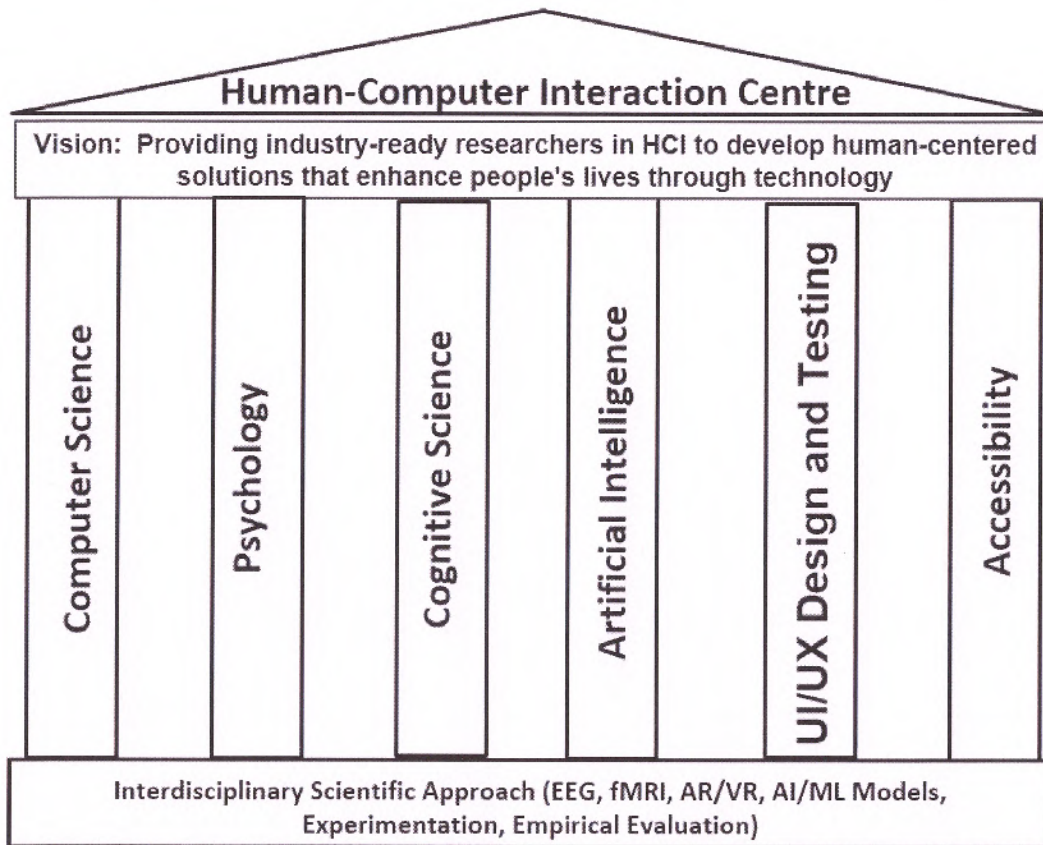


Figure 1. The HCI Centre at IIT Mandi is envisioned to provide industry-ready researchers in HCI to develop human-Centered solutions that enhance people's lives through technology. The pillars provide foundational areas where an interdisciplinary scientific approach is utilized for research.

As shown in Figure 1, the HCI Centre is envisioned to provide industry-ready researchers in HCI to develop human-centered solutions that enhance people's lives through technology. The research and teaching under the Centre would include the following HCI areas: computer science, human factors,

psychology, cognitive science, neuroscience, artificial intelligence (AI), user experience design, user interface design, interaction techniques and input devices, accessibility, universal design, and virtual and augmented reality. The Centre's research would be grounded in interdisciplinary scientific methods and involve several methodologies from design, psychology, cognitive science, neuroscience, AI, and computer science.

## Uniqueness

The proposed Centre will be unique because of the following:

1. It will be the first-of-its-kind Centre focused on the Himachali communities with its challenges due to geographical location.
2. It will be the first of its kind Centre at an IIT in India.
3. It will be the first of its kind Centre that brings interdisciplinary topics concerning HCI under a common umbrella.
4. It will be the first of its kind Centre that offers an interdisciplinary mix of faculty and programs in HCI.

## Salient points

The HCI Centre at IIT Mandi has the following salient points:

1. **Interdisciplinary Focus:** IIT Mandi has a strong focus on interdisciplinary research and education, which can be leveraged to create a unique HCI Centre that brings together expertise from multiple fields. By integrating insights from computer science, psychology, design, engineering, and other disciplines, the centre can develop innovative approaches to human-computer interaction.
2. **Emphasis on Social Impact:** IIT Mandi is strongly committed to social impact, and the HCI Centre at the institute can reflect this emphasis by focusing on developing HCI solutions that positively impact society. By addressing societal challenges such as healthcare, education, accessibility, and sustainability, the centre can contribute to the well-being of people in the region and beyond.
3. **Regional Context:** IIT Mandi is located in the Himalayan region of India, which presents unique challenges and opportunities for HCI research and development. The HCI Centre at the institute can leverage the regional context to develop technologies tailored to the needs of people in the area while also addressing broader global challenges.
4. **Industry Collaboration:** IIT Mandi has established partnerships with industry leaders, which can be leveraged to create a unique HCI Centre closely connected to industry needs and trends. By collaborating with industry partners, the centre can ensure that its research and education are relevant to real-world problems and can have a practical impact.
5. **Entrepreneurship:** IIT Mandi strongly focuses on entrepreneurship, which can be leveraged to create a unique HCI Centre that fosters innovation and creativity. By providing opportunities for students and researchers to develop new technologies and start-up companies, the centre can contribute to the growth of the technology ecosystem in the region and beyond.



Overall, the HCI Centre at IIT Mandi can be unique by leveraging the institute's strengths in interdisciplinary research and education, social impact, regional context, industry collaboration, and entrepreneurship. By combining these factors, the centre can develop innovative approaches to human-computer interaction that positively impact society and the economy.

### **Research and Labs**

The Centre would establish research labs like UI/UX and design lab, EEG/MEG lab, Neurostimulation lab, Eye-tracking lab, AR/VR and Motion lab, Psychology, data collection, AI/ML lab, and teaching labs. The Centre would also cater to several specializations and degree programs at the undergraduate and postgraduate levels, respectively. The undergraduate programs may include B. Tech. in Computer Science (with specializations in HCI). Furthermore, some of the postgraduate programs include M.Tech. programs in HCI/Cognitive Science/user-Centered design/AI and ML. Finally, the Centre would include a Ph.D. program in all HCI areas. The teaching programs would be supported via certain teaching labs.

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### **Deliverables**

The HCI Centre at IIT Mandi plans to deliver a variety of outputs and outcomes, depending on its goals and objectives. Here are some possible deliverables of such a Centre:

**Research publications:** The HCI Centre will conduct high-quality research in the field of human-computer interaction and publish their findings in top-tier conferences and journals. This can contribute to developing new knowledge and insights that can be applied to the design and development of interactive systems.

**Design solutions:** The HCI Centre will create design solutions that are tailored to specific user needs and contexts. This can include the development of prototypes, mockups, and user interfaces that can be tested and evaluated with real users to ensure their usability and effectiveness.

**Education and training:** The HCI Centre can offer courses, workshops, and training programs to students, professionals, and researchers in the field of human-computer interaction. This can help to build a skilled workforce that can design and develop interactive systems that are user-friendly, efficient, and effective.

**Toolkits and frameworks:** The HCI Centre can develop toolkits, frameworks, and libraries that designers and developers can use to create interactive systems more efficiently and effectively. This can include software libraries, design patterns, and other resources that can streamline the development process and improve the quality of the final product.

**Consulting services:** The HCI Centre can offer consulting services to industry partners and government agencies to help them design and develop interactive systems that are user-friendly and effective. This can include user research, design evaluation, and usability testing services that can provide valuable insights into user needs and preferences.

**Start-up companies:** The HCI Centre can encourage and support the creation of start-up companies focused on developing innovative solutions in the field of human-computer interaction. This can contribute to the growth of the technology ecosystem in the region and create new job opportunities for students and researchers.

Overall, the HCI Centre at IIT Mandi can deliver a range of outputs and outcomes that can contribute to developing high-quality research, innovative design solutions, a skilled workforce, and practical applications of human-computer interaction.

## **Academic and Industry Collaborations**

Some of the Institutes in India and abroad that have expressed interest in collaborating with the HCI Centre include

1. IIT Mandi iHub and HCI Foundation
2. IIT Mandi Catalyst
3. IISc Bangalore
4. IIT Delhi
5. IIT Bombay
6. IIT Guwahati
7. INMAS, DRDO
8. AIIMS Bilaspur
9. PGIMER Chandigarh
10. Indian Airforce
11. Carnegie Mellon University, USA
12. The University of Texas, El Paso, USA
13. Unity 3D
14. Epic Games
15. Furhat Robotics
16. Rubiscape
17. Think Design
18. Naxon Labs
19. Neuphony
20. ITRA
21. Neuroleap
22. Icuero
23. Revenue Mantra

## **IIT Mandi Faculty Involved**

Several faculty at IIT Mandi has expressed interest in participating in the HCI Centre. These include

Prof. Arnav Bhavsar  
Prof. A D Dileep



Prof. Aditya Nigam  
Prof. Satyajit Thakor  
Prof. Shubhajit Roy Chowdhury  
Prof. Gopi Shrikanth Reddy  
Prof. Erwin Fuhrer  
Prof. Dinesh Singh  
Prof. Narendra Dhar  
Prof. Radhe Shyam Sharma  
Prof. Varun Dutt  
Mr. Somjit Amrit, CEO, iHub  
Postdocs, Faculty Fellows, and Research Staff at iHub

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Other faculty, including newer faculty, will be invited from time-to-time to become a part of the proposed HCI Centre.

## **Proposal for the establishment of the Centre for Quantum Science and Technologies (CQST) @ IIT Mandi**

### **1. Introduction**

Advent of 'Quantum Science' in the last century has brought enormous growth in our understanding of nature at atomic level, resulting in the rapid and dramatic changes in the development of society. There are hardly very few avenues in the scientific journey of human, which can be worked out without the knowledge of quantum science. The basic notion of quantum mechanics that nature exhibits dual characteristics (particle as well as wave like) at atomic level has challenged the classical way of understanding nature. This new way of understanding has not only helped in the answering some common questions of nature such as color, transparency and opaqueness of a substance, biological compasses, electromagnetic radiations, but also resulted in harnessing the collective behavior of quantum particles at mesoscopic scale, which has led to the technology of everyday use such as toaster, fluorescent light, computer, mobile phone, transistor, Laser, microscopy, Global Positioning System, Magnetic Resonance Imaging, Telecommunication etc.

Over the last half of century, development of solid-state transistor and high storage memory devices led to the unprecedented fast growth of the human civilization. This technology is based on the principles of quantum mechanics and can be termed as 'Quantum 1.0'. Now, a second revolution in the quantum technology is on the card, which promises more precise, advanced, and effective methods for the transfer of information, sensing and computation. This technology, again based on the concepts of fundamental principle of quantum mechanics can be termed as 'Quantum 2.0', which encompasses Quantum Computing, Quantum Communication, Quantum Metrology and Sensing, Quantum Materials, Quantum Entanglement, Ion trap etc. Considering the future prospective and growth forecast, it is quintessential to explore the fundamental and technological aspects of the Quantum 2.0, we propose the establishment of a 'Center of Quantum Science and Technologies (CQST)' at IIT Mandi.

### **2. Objectives**

The primary objectives of CQST are:

- (i) Establish a national laboratory with state-of-the-art facilities to test all hallmarks of optical quantum computing, including a Quantum supremacy testing facility.



- (ii) Construction of a prototype facility for a quantum computer and cryptographic devices.
- (iii) Development of a reliable and scalable optical vortex-based quantum computing platform that can solve specific problems.
- (iv) Development and optimization of nanowire self-assembly as an encoding of quantum algorithms for the optical vortex-based quantum computer.
- (v) Establish a roadmap for future developments in harvesting topological photons interacting like electronic devices as an interaction of cognitive choices during room-temperature quantum processing.
- (vi) Nurturing the young engineers and scientists for the upcoming quantum technologies through the academic degree programs like Ph.D., M.Tech, M.Sc. and B.Tech.

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### **3. Research Verticals of CQT**

- Quantum Optical Computing
- Quantum Communication
- Quantum Cryptography
- Quantum Sensing and Metrology
- Quantum Materials
- Quantum Optics
- Quantum Education

### **4. Uniqueness**

Some of the unique aspects where the proposed center would focus on are:

- Center with team members from across the globe.
- We aim to build an operational quantum vortex based computer.
- Focus on the development of the operational quantum computer with features comparable with already commercialized quantum computers.
- Construction of a prototype facility for a quantum computer and cryptographic devices.
- Introducing multi-institutional PhD program in quantum technologies with collaboration with universities/institutes at Japan, USA, Germany, UK, IITs etc.
- Introducing new postgraduate program (M.Tech.) and specializations program for B.Tech. in quantum computing and quantum communication.

### **5. Team Members**

- Prof. Laxmi Dhar Behera (Robotics and Artificial Intelligence, IIT Mandi)

- Prof. Rabindra Pratap Singh (Quantum optics & Quantum communication, Lead, PRL, India)
- Prof. Ranjit Pati (Quantum theory of atomic structures, MTU, USA)
- Dr. Martin Timms (Engineering commercial portable quantum computer, UK)
- Dr. Anirban Bandyopadhyay (Neuromorphic computing, NIMS Japan, IIT Mandi)
- Dr. Chandra Shekhar Yadav (Low Temperature Physics, IIT Mandi)
- Prof. Suman Kalyan Pal (Exciton spectroscopy, light-matter interaction, IIT Mandi)
- Dr. Pradyumna Pathak (Mechano-optics, optical cavity, IIT Mandi)
- Dr. Hari Varma (Atomic trap for light-matter interaction, IIT Mandi)
- Dr. Pushpendra Singh (Quantum electronics and optics, NIMS Japan)
- Dr. Pathik Sahoo (Organic nanowire synthesis, NIMS Japan)
- Dr. Jhimli Sarkar (Microfluid gel chip for cryptography, IIT Kharagpur)
- Dr. Arunagshu Debnath (Quantum Algorithm, Germany)

## **6. Research and Labs**

The Centre would establish four research labs:

- Development of a quantum optics laboratory
- Development of prototype fabrication facility
- Organic nanowire processing and in situ high resolution microscopy (Single quantum device testing & microfluidic cyber security and other chip design)
- Microwave, radiowave and infra-red physics laboratory

## **7. Mandates & Deliverables**

The CQT will have following mandates and deliverables:

- Construction of a prototype facility for a quantum computer and cryptographic devices.
- Development of a reliable and scalable optical vortex-based quantum computing platform that can solves specific problems.
- Development and optimization nanowire self-assembly as encoding of quantum algorithms for the optical vortex-based quantum computer.
- CQT will offer M.Tech and PhD degree programs and support minor/specialization for B.Tech programs
- CQT will conduct skill development activities to produce next-generation researchers, which include undergraduate students, postgraduate students, doctoral, postdoctoral, and faculty.
- Center will organize national-international conferences, competitions, seminars, workshops, and others such activities to promote knowledge and research culture.



## 8. Collaborations

Some of the Academic institutes and Industries in India and abroad with whom CCQT will collaborate include:

### **India:**

IIT Mandi  
IIT Kharagpur  
IIT Ropar  
PRL Ahmedabad

### **Abroad:**

NIMS Japan  
MTU USA  
Engg. Commercial Inc, UK  
Quant. Algorithm, Germany

## 9. Capacity Building

- **Skilled Manpower**

Training of ~ 30 high quality Ph.D. and Postdoctoral researchers in five years  
Training of ~ 50 students every year during their M.Tech (Quantum Technology), M.Sc. (Physics) and B.Tech. program

- **Academic Programs**

The CQST will support various teaching programs in the institute besides giving training to the students for their PhD, integrated PhD degrees. A new program *M.Tech. in Quantum Technologies* will be started which would train 100 students in five years. Additional specialization courses related to Quantum Technologies would be offered to the existing undergraduate and postgraduate program.

Therefore the CQST will cater to the need of following teaching programs:

- Ph.D.
- Integrated Ph.D.
- M.Tech. in Quantum Technologies
- M.Sc. (Physics)
- B.Tech. (Engineering Physics)
- B.Tech (Computer Science )

## 10. Sustainability

CQST will require continuous support in the form of manpower and maintenance cost of the instruments. The priority would be given to generate financial support from government funding agency for the ongoing and new projects. Additionally, the facility will be made open to researchers from other institutes through collaborative mode or user charge basis. We would be generating a revenue of ~ Rs. 1.0 crore per year for the

sustenance of the center. In general, following policies would be implemented for the long-term sustainability of the proposed research activity:

- Reasonable user charges for internal and external users. We plan to allot 30 % of time on the equipment to skilled users. We expect a revenue generation of ~10 lakh per year from the user charges.
  - Quantum computing startups from IIT Mandi, as incubation will be integrated with our program providing certified parameter testing and fundraising.
  - Generation of grant worth ~ 4 Cr in five years from various funding agencies
  - Implementing 20% overhead charges on the research and consultancy projects for internal research groups.
  - Tuition fee from the new academic M.Tech program in Quantum Technology.
  - Periodic workshop and certification program for external and industry users.
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Abstract of cost of all elements					
SL. No	Description	Unit	Total nos of blocks/ Apartments	Total cost in Cr.	Remarks
1	Academic Block.	Nos.	2.00	135.00	Total 20,000 Sqm area for 02nos. Blocks, 10,000 sqm area is considered for each block.
2	3 BHK Housing Block.	Nos.	150.00	94.00	Total 150 nos. 3BHK appartments, area of each flat =180 Sqm
3	2 BHK Housing Block.	Nos.	150.00	64.00	Total 150 nos. 2BHK appartments, area of each flat =115 Sqm
4	Student Activity Centre (Including Sports Complex).	Nos.	1.00	33.00	Total 3500 sqm area has been considered.
<b>Total cost in Cr.</b>				<b>326.00</b>	(Without cost index)

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# Indian Institute of Technology Mandi

## HOUSE ALLOTMENT POLICY/RULES

### 1.0 SHORT TITLE AND DEFINITIONS:

- (a) These rules may be called the Rules for Allotment of Residences in IIT Mandi.
- (b) These shall come into force on the date of approval by the BOG/competent authority.
- (c) Additions/Amendments approved by the BOG/competent authority from time to time shall take effect from the date these are approved unless otherwise specified.

### 2.0 DEFINITIONS:

2.1 "Allotment" means grant of a license to IIT Mandi employee to occupy a residence or a portion thereof, owned by the Institute for use by him/her as a residence, as per the terms of the license.

2.2 "License Fee" means the sum of money payable monthly in respect of any type of residence allotted to an employee under these rules and shall be such as may be decided from time to time by the Competent Authority on the basis of the Institute norms in this regard.

2.3 "Residence" means any residence for the time being under the administrative control of the Institute.

2.4 "Family" means the wife or husband, as the case may be and children, step children, legally adopted children, parents, brothers and sisters.

2.4 "Subletting" includes sharing of a residence by the allottee with another employee of the Institute with or without payment of rent by such other employee with the authorization of institute. Any sharing of a residence by an allottee with his/her family members shall not be deemed to be subletting.

*(Provided that an officer/official of the institute eligible for allotment of institute residence can share the accommodation with the permission of the competent authority/ Director who shall permit such officer/official sharing of accommodation on his/her surrendering house rent allowance payable to him/her, but in no case such sharing shall entitled the shares to claim any*



*right over the residence).*

2.5 **“Competent Authority”** - Director of the Institute will be the competent Authority.

### 3.0 HOUSE ALLOTMENT COMMITTEES (HAC)

3.1 There shall be a House Allotment Committee (HAC) constituted by Director of IIT Mandi for all the Staff serving at IIT Mandi from time to time to carry out the functions assigned to it in these rules.

3.2 The nominated members of HAC shall normally have tenure of 3 years and shall be responsible for considering the applications and recommending to the Director for the allotment of residences to all groups of employees.

3.3 Composition of House Allotment Committee (HAC)

- a) Senior Faculty Member (**Chairperson**)
- b) Representative of Academic (**Nominated by Director**)
- c) Representative of Non-Academic (**Nominated by Director**)
- d) Estate officer/Member Secretary/ **Convener (HAC)**

### 4.0 ALLOTMENT PROCEDURE

4.1 The Estate officer/Member Secretary (HAC) will inspect each vacant residence and will arrange necessary repair of Civil and electrical fixtures installed in the flat. He/ She will inform the Chairman, HAC that the House is available for allotment.

4.2 Announcement of vacant residence shall be made by the Chairman of the House Allotment Committee (HAC) with last date applying mentioned by him/her.

4.3 The applications received against the allotment call shall be screened, a seniority list shall be prepared for the various residences and put to component authority for approval.

4.4 After the approval of component authority, the allotment letters will be issued to the applicants through Estate Office.

### 5.0 ELIGIBILITY

5.1 The Institute residences shall be allotted on license only under following categories of officials/ faculties/staff or equivalent, as per the entitlement/ desecration of competent authority for allotment of Institute residence as per institute norms.

- (a) Regular/ Re-employed/ Contract/ Temporary Staff of the Institute.
- (b) Emeritus Fellows/ Emeritus Scientists/ Emeritus Professors/ Visiting faculty & Post-Doctoral Fellow or equivalent under MHRD/DST/UGC or any authorized agency or subject to any internal/ external scheme.
- (c) Staff on Deputation.
- (d) Persons eligible under terms & conditions of the MOU with any public/private organization

5.2 If a person and his/ her spouse are both employees of the Institute, only one of them shall be eligible for the allotment of residence, provided that this rule shall not apply where the husband and wife are residing separately in pursuance of an order of judicial separation made by a Court.

5.3 Where two officers/officials in occupation of separate residences allotted under these rules marry each other, they shall within one month of marriage surrender one of the residences. If a residence is not surrendered as stated, the allotment of the residence in the general pool shall be deemed to have been cancelled on the expiry of such period.

5.4 A person, who is having a period less than one year from the date of his/her superannuation shall not be eligible to apply for another residence.

## **6.0 CATEGORIES OF RESIDENCES**

All the residences of the Institute shall be categorized by the IIT Mandi Establishment & Recruitment section for Group A, B, C and D or equivalent employee, which will accordingly determine their entitlement.

6.1 The following officers/staff of the Institute are entitled to houses earmarked for them.

- a. Director
- b. Any other officer/official/faculty member/equivalent as per the decision /discretion power of Competent Authority.

HAC shall consider and approve the specific earmarked residences and may revise the list of this category as and when required. The concerned person must vacate the earmarked house within one month of relinquishment of the office. A person, who is allotted an earmarked residence, may be allotted another residence as per his/her entitlement by the House Allotment Committee (HAC) for the period of his/her entitlement after retirement. Such an allotment can be made by the HAC up to two months before the date of retirement of the concerned employee.

## **7.0 SENIORITY:**

The seniority shall be determined for each member of the staff on the basis of following criteria:



(a) For Group A Staff : Full length of continuous service in the Institute from the date of entering the pay slab of the sub-category of his/her group of the residence for which application has been made plus 50% of duration of service, if any, in a lower sub-category of Group 'A' in the Institute.

NOTE 1: For an outside person joining a Group A post in the Institute, 50% of his/her total length of Group A service will be added to his/her service in the Institute till he/she gets a regular accommodation in his/her proper sub-category as it obtained at the time of joining. This shall, however, not be applicable to allotment of transit accommodation.

NOTE 2: A faculty member/ officer/official of the Institute joining as Emeritus Fellows/ Emeritus Scientist/ Emeritus Professors/ officer/official on special duty or re-employed immediately after retirement will continue to occupy the same house as before.

NOTE 3: A person from outside joining any post even after retirement will enjoy the benefit of past service as provided in Note -1.

(b) For Category "B" houses full continuous service from the date of entering pay slab of the sub-category of the house for which application has been made plus 50% of the length of service, if any, in lower sub categories (including D Class Service) in Institute Service.

(c) For Category "C" house: Full Continuous service from the date of joining the Institute service.

(d) On the death of an institute employee /staff member who has been occupying an Institute accommodation priority allotment may be made to the son, daughter or wife of the staff member if either of them is a staff member of the institute and has been residing with deceased employee/staff.

If the spouse, son or daughter (as the case maybe) of the deceased employee/staff is eligible for the same or higher category of accommodation as was in occupation of the employee/staff at the time of death, he/ she may be allotted the same accommodation as occupied by the deceased employee/staff. Otherwise the type of residence shall be according to entitlement of the new incumbent.

**NOTE:-**

**A)** The preference for the allotment of accommodation will be given to Regular Employee over the Contractual/temporary/on deputation employee. However as per the institute requirements competent authority may decide preference on any allotment.

**B)** Seniority for allotment of a particular class of accommodation will be determined by Date of joining. In case the Date of joining of two or more employees is the same, seniority amongst them shall be determined by the Level/scale of pay. Employees in higher Level/scale of pay will be senior to the employees in lower scale of pay. In case the Level/scale is also the same, employee getting higher basic in the same scale will be senior. Where the



Level/Scale/Basic is equal, the seniority will be determined by the date of birth, that the older employee will be getting precedence over the younger employee. And where all the above factors are equal, seniority will be decided by a draw of lots.

**C)** Benefit of 1/3<sup>rd</sup> of the length of service of a retired employee/staff up to a maximum limit of 3 years will be given for considering the seniority of the spouse, serving the Institute at the time of retirement of the said staff, for the purpose of allotment of a house in the category to which they belong. Provided that the seniority so calculated does not exceed that of the retired staff.

Provided that this benefit shall be availed of only for the first allotment of a regular residence even after the retired staff retains his/ her house for the full authorize duration. The house will be advertised in the immediately preceding advertisement before the full authorize duration is over and the spouse will also apply for the house in which the couple was staying.

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## **8.0 LICENSE FEE:-**

Each allottee of an Institute residence shall be charged a license fee. The license fee will be as fixed by the Board from time to time for the different categories of residences. It will be subject to a maximum ceiling of 10% of monthly emoluments of the allottee.

8.1 (a) An employee/staff member of the institute applying ab-initio for a house, can apply for a house of lower sub-category, provided that no house of his/her sub-category is available.

(b) An employee/staff member of the institute in a house of a sub-category lower than his/her entitled residing sub-category, may apply for a house of the same sub- category in which he/she is currently residing.

(c) An employee/staff member of the institute living in a house of his entitled sub-category will not be permitted to apply for a house of a lower sub category.

8.2 When an accommodation is allotted to an applicant, she/he cannot apply for accommodation of the same type in the same campus (North/South/Gharpa) for a period of 3 years. However, they can apply for same type of accommodation in other campus after a period of one year. In addition, if applicants entitlement permits, they are eligible for applying another (other than allotted) category (1BHK/2 BHKs/3 BHKs) of apartments without any time period restriction. This clause may not be applicable if the allotment is beyond preference.

8.3 If the allottee vacates the allotted residence before the completion of one year, and is not residing in an Institute residence, no application will be considered for the next one year from the date of vacation of the previous residence.

8.4 After allotment of a residence the allottee will be issued a formal order of allotment.

## **9.0 FORFEITURE OF ALLOTMENT OF A RESIDENCE**



The residence once allotted must be occupied in the condition as it is within **7 days** from the date of receipt of the allotment order by the allottee after vacating the previous Institute residence in which he/she might have been residing. Failure to do so within the stipulated time will result in the automatic cancellation of the allotment. Further, the allottee will be debarred from applying for any Institute residence for the next one year (However this penalty clause will not be applicable if the allotment is beyond preference.)

## **10.0 OUT OF TURN/Ad hoc Allotment**

10.1 Out of turn allotment shall be made only under the orders and discretion of the Director and normally the following categories of staff shall be entitled to out of turn allotment:

- (a) Visiting faculty.
- (b) Persons on Deputation (including NCC Staff)
- (c) Persons declared as belonging to essential services.
- (d) Persons on medical grounds: Physically handicapped/ Blind/ Deaf/ orthopedically handicapped or equivalent as certified by a Medical Committee appointed by the Director.

Provided that the out of turn allotment shall be for a residence of his/ her entitled sub-category or lower sub-category.

10.2 The Son/Daughter/widow/widower of a deceased employee/staff, if employed or being given employment in the institute, may be considered for out of turn allotment at his/her request for a lower sub-category residence in his/her group, provided that the deceased employee/staff was living in an Institute residence at the time of his death.

10.3 Temporary/ Ad hoc or out of turn allottees, who are regular employees, entitled to normal allotment but are not on deputation to the Institute will become unauthorized occupants after the expiry of three years. Such an allottee must apply for regular allotment of a residence in response to advertisements. He/ She may also be considered for a residence falling vacant in his/her own sub-category without receiving an application from him/ her. In case of regular allotment the out of turn/ Ad hoc allotment will stand cancelled automatically and He/She will be required to shift to the regular allotted residence. This provision should be notified in the advertisement.

## **11.0 ALLOTMENT ON Ad hoc/TEMPORARY BASIS**

11.1 In special cases temporary allotment of residence to an institute employee may be made for a period not exceeding six months under discretion and direct orders of the Director. The allottees in such cases must:-

- (a) Deposit one month's license fee as a security, which shall be refunded at the time of



vacation of the residence.

(b) Pay license fee of the current month latest by 5<sup>th</sup> day of the month.

(c) Vacate the residence on one month's notice or on the expiry of the six months period whichever is earlier.

Cases of default and violation of (a), (b) & (c) above shall be liable to notice of immediate vacation and charging of penal license fee.

11.2 Request for temporary allotment on medical grounds may be considered by the Director, on the recommendation of the Medical Committee as per provision in 10.1(d).

11.3 If an occupant of a residence has some special and serious difficulties in connection with his/her residence, he/she may appeal for a change of house. The HAC may give decision in this matter or request the Director to appoint a Committee to investigate the matter and give its recommendations.

## 12.0 RETENTION OF RESIDENCE

12.1 Retention of residence may be permitted in the following cases, if and only if, the allottee, or his family, proposes to stay for the duration as indicated and at the license fee payable as mentioned against each:

Sr. No	Condition	Permitted Duration	License Fee
1.	After death of an employee/staff member; who was an authorized occupant of the house, the dependents residing with the deceased will be allowed retention of the house.  <i>*Provided the deceased employee or his/her dependent does not own a house at the place of work of the deceased.</i>	a) 12 months	a) On normal license fee
2.	Employee/ Staff proceeding on EOL/ Study Leave/ Sabbatical/ Other long leave etc (Excluding Medical, maternity and CCL etc.)  <i>* (May be extended on approval of competent authority)</i>	a) 3 months b) Next 6 months c) Max.2 years  <i>(May be extended, subject to the program/scheme terms/ ordinary/ extraordinary circumstances with the</i>	a) Normal license fee b) Double the normal license fee c) Enhanced license fee as decided by the competent authority.  <i>(If the applicant is residing in the campus during such leave only the normal license fee with the</i>



		<i>subsequent approval of competent authority)</i>	<i>subsequent approval of competent authority will be applicable)</i>
3.	Employee/ Staff proceeding On deputation, secondment /foreign services	a) 6 months b) Next Six months c) After 1 Year d) After 2 Years  <i>(May be extended, subject to the program/scheme terms/ extraordinary circumstances with the subsequent approval of competent authority)</i>	a) Normal license Fee b) Double License Fee c) Enhanced License Fee @ 15 to 25 times as decided by the competent authority. d) Enhanced License fee @ 25 to 50 times as decided by the competent authority.  <i>(One residence at either place. Certificate/declaration to be furnished for not having/owning a legal house at another place in his/her name)</i>
4.	Resignation  <i>(Although the lien is granted)</i>	a) 15 Days from the date of relieving.  b) Next 15 Days	a) Normal License fee  b) Double License fee
5.	Compulsory retirement	a) 1 month b) Next 2 Months	a) Normal License fee b) Double License fee
6.	Dismissal or termination from service/any assigned duty from institute end to the employee	1 month	Normal License fee
7.	Earmarked residences	1 month	Normal license Fee

**Note-1.** Request for permission to retain an Institute residence for the specific duration should be made to the Chairman, HAC on the prescribed Performa at least one month before due date of retirement/ due date of proceeding on leave or within 2 months of the death of the staff, in case of condition (6) request should be made within a week of the letter of dismissal or termination received by the concerned person.

**Note-2.** A residence retained under this clause must be vacated within the period as specified under Rule 12.1 or the date upto which permitted, whichever, is earlier. Permission to retain the house beyond the maximum period specified in Rule 12.1 will be at the enhanced license fee specified in Rule 13.1.

**Note-3.** In case of those staff who would be drawing pension from the Institute the license fee and other charges (Electricity/water) of the residence will be deducted from their pension every month. In other cases license fee must be paid in advance in quarterly installments. First installment should be deposited in the Institute within a week of grant of such permission. The permission, so granted shall terminate automatically, if the license fee for any quarter is not paid, as stipulated above and such occupation will amount to unauthorized occupation and

action shall be taken as per Rule 17.

### **13.0 ENHANCED LICENSE FEE**

13.1 Enhanced license fee at the rate of 25 to 50 times of the monthly normal license fee for the Institute residences shall be charged per month from the occupants of the residences. This may, however, be decided by the competent authority of the institute.

13.2 The Enhanced license fee may be deemed to be a charge on the salary, pension, or any other amount due to the employee and the Institute shall be entitled to deduct/set-off such License fee from such amount due to the employee.

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### **14.0 ALLOTMENT OF ACCOMMODATION HIGHER THAN ENTITLEMENT**

14.1 An employee shall be allotted higher accommodation in exceptional case after approval from the competent Authority subject to charging license fee @3 times the normal license fee.

### **15.0 CODE OF CONDUCT FOR ALLOTTEES OF INSTITUTE RESIDENCES.**

15.1 The Institute residences are allotted for living for the allottee and his/her family and relatives. Any other person is not allowed to reside in the residence.

15.2 No allottee is permitted to sublet the residence allotted to him/her partly or fully or use it for any trade or business. If a complaint is received to this effect, appropriate action will be taken by the Institute authorities.

15.3 Sharing of the residence by the allottee with anyone else, other than those permitted under Rule 16.1 is not permitted.

15.4 Mutual exchange of residence by allottees without permission from the Institute is strictly prohibited.

15.5 The allottees will pay regularly license fee, electricity and water charges for the residence as prescribed by the Institute from time to time.

15.6 Any alteration or addition in the Institute residence shall not be allowed by the residents. However, the Institute may decide for identical alteration or addition in a group of identical houses.

15.7 Milk cattle or any other cattle will not be kept in a Institute residence or its out-house.



15.8 The allottees will not temper with the electricity installation, water supply and sanitary fittings or other fixtures in the residence provided by the Institute.

15.9 Unauthorized use of electricity or water supply in any manner will be treated as a serious offense and render the allottee liable to disciplinary action.

15.10 The allottee will immediately report to the concerned authority about any defects in installations leading to wastage of water or leakage of electricity, etc.

15.11 The allottee may maintain collared doges or any other pets provided that they take extra care/responsibility so as not to cause any danger or nuisance to neighbors in any way.

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15.12 The allottees are expected to conduct themselves in a courteous and polite manner with the neighbors. If any complaints are received about any resident being quarrelsome or indulging in objectionable activities like entertaining undesirable characters, disorderly behavior, getting intoxicated outside the house, etc., appropriate disciplinary action including cancellation of allotment of such residence shall be taken by the Institute authorities.

15.13 The allottee will not encroach upon the Institute land or the land of the neighboring residences for gardening or for any other purpose.

15.14 The allottee will not undertake cutting or lopping of the trees in the compound of their residences or nearby areas on his own.

15.15 Any timber yield from the tree(s) in the campus of the residences will be deposited by the allottee with the Estate office as the Institute property.

15.16 If an outhouse is attached to a residence, the allottee shall furnish the name and age of the person staying in the outhouse to the Estate Office. The allottee shall be fully responsible for the conduct of the person residing in the outhouse.

No commercial activities will be allowed from the out houses. Only the person, spouse and their children can stay in the outhouse. Violation of this rule will invite a penalty to the allottee @ 50 times of the normal license fee.

## **16.0 UNAUTHORIZED OCCUPATION AND PUNITIVE ACTIONS.**

16.1 A person residing in an Institute residence shall be deemed to be unauthorized occupant, under any one, or the following circumstances:

- a) The residence is occupied without allotment.
- b) Violation of or Rules(s) 16.1 to 16.17 of the Code of Conduct for the allottees of Institute residences.



- c) Under the conditions specified in Rule 12.1, a duly allotted residence is retained:
  - I. Beyond the allotted period without prior permission or if the permission is refused.
  - II. Without making advance payment of license fee as specified in the Note-3 of Rule 12.1.
  - III. In Violation of any term or condition as prescribed in the Rules for retaining the residence.
- d) An out of turn allottee, excepting persons on deputation to the Institute, three years after the date of out of turn allotment.

16.2 a) An Institute staff declared to be an unauthorized occupant by the Institute shall be liable to punitive action specified under Rule 17.0, Besides any disciplinary action as per Institute Statutes/Rules.

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b) If a person who is declared an unauthorized occupant is not an Institute employee, action will be taken as per law.

16.3 If the person, to whom the residence(or a part of it) is sublet, were also an Institute staff, he/she would also be liable to disciplinary action as per Rules. In addition, punitive action as per Rule 17.0 may also be taken against such persons.

16.4 On a complaint received against a staff regarding violation under Rule 17.1, the staff will be served a notice to offer his comments in Writing on the complaint within ten days from the receipt of such notice, for violation under Rules 17.1(a),(b) & (c) punitive actions as per Rule 17.0 may be taken after serving a show-cause notice to be replied within fifteen days from the receipt of such notice.

**Note:**

- (a) For the purposes of this Rule, the service of notice shall be deemed to be sufficient for all purposes, if it is sent once under registered post on the address of the premises concerned.
- (b) Such complaint along with the comments or replies, if any, made by the concerned Staff shall be referred to the HAC. After considering the complaints and the comments, if any, the HAC may drop the complaint if satisfied with the comments or replies. However, if the HAC is not satisfied with such comments or replies, then the staff concerned shall be given a notice to vacate the premises within 15(fifteen) days from the date of such notice. In such a case, the staff shall be liable to all punitive action as provided for under unauthorized occupation under Rule 17.0.

**17.0 PUNITIVE ACTION FOR UNAUTHORIZED OCCUPATION**

17.1. (a) An unauthorized occupant will be liable to eviction by the Estate Officer/Member Secretary(HAC) under section 3 of the public premises (Eviction of unauthorized occupants) Act 1971(act No. 49 of 1971).



17.2. (b) For the period of unauthorized occupation a person will be charged PENAL LICENCE FEE Which will be double of the ENHANCED LICENSE FEE as specified in rules.

Such penal license fee shall, for all purposes, be deemed to be a charge on the salary. Pension, or any other amount due to the staff and the Institute shall be entitled to deduct or set-off such penal license fee from such amount due to him/her.

17.3. (c) The Institute may disconnect the electricity, water and/ or Institute telephone, (if any provided in the concerned premises) at any time after the service of fifteen day's notice as provided under rule 17.4.

17.4 (d) In addition to the provisions in rules 17.1.(a) to 17.3.(c), the competent Authority may taken disciplinary action in accordance with the relevant statues/ rules.

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**18.0 APPLICABLE** w.e.f. from the date of approval of Board of Governors.

## **19.0 OTHER MATTERS**

19.1 Authority competent to take action under these rules:

The Director shall be Competent Authority to take any action under these rules. He/she may delegate any or all of the powers vested in him/her to any officer of the Institute.

19.2 Interpretation of Rules:

If any question arises as to the interpretation of these rules, it shall be decided by the Competent Authority based on the discussion with the HAC.

19.3 Relaxation of the Rules:

The competent authority "Director, IIT Mandi" may for reasons to be recorded relax/waiver any or all the provisions of these rules in the case of any employee or class of officers or any type of accommodation/any applicable charges or any kind not included here, if desired/required.

19.4 Matters not covered:

Matters further not covered by these rules shall be referred to the Competent Authority for decision. IIT Mandi will follow the other sisters IIT's/Govt. of India accommodation policy and guidelines, in all issues wherever, IIT Mandi policy is silent.

**Fee details for IMBA Year 1, 2, and 3**

(Excluding the one-time deposits, Hostel fee, Mess advances, and Medical Cover Charges)

- The proposed per semester fee for the first three years is:
    - Rs. 1.60 lakhs/semester
  - The above fee consists of the following components
 

○ Tuition Fee*	1,25,000/-
○ Registration Fee	5,000/-
○ Campus Facilities Charges	5,000/-
○ E-resources, Computational Facilities etc.	25,000/-
○ Total for a semester	Rs. 1.60 lakhs
- 
- Total for the first three years (Sem I – Sem VI)      Rs. 9.60 lakhs

**Fee details for IMBA Year 4 and 5**

(Excluding the one-time deposits, Hostel fee, Mess advances, and Medical Cover Charges)

- The per semester fee for the last two years is proposed to be same as the ongoing two-year MBA DS & AI program. The current fee structure is as follows:
  - Rs. 1.75 lakhs for Sem VII and Rs 2.25 lakhs for Sem VIII- Sem X
- The above fee consists of the following components
 

○ Tuition Fee*	Rs. 1.5 lakhs for Sem VII and Rs 2.0 lakhs for Sem VIII- Sem X
○ Registration Fee	20,000/-
○ Campus Facilities Charges	5,000/-
○ Total for a semester	Rs. 1.75 lakhs for Sem VII (Rs. 2.25 lakhs for Sem VIII- Sem X)
- Total for last two years (Sem VII – Sem X)      Rs. 8.50 lakhs.

**Total Program Fee**

(Excluding\* the one-time deposits, Hostel fee, Mess advances, and Medical Cover Charges)

Total for last three years **Rs. 9.60 lakhs.**Total for last two years **Rs. 8.50 lakhs.**Total for five years **Rs. 18.10 lakhs.**

\*The one time refundable and non-refundable charges, Hostel fee, Mess advance, and Medical Cover charges would be same as for the other programs as per existing institute norms. The current charges are given below:



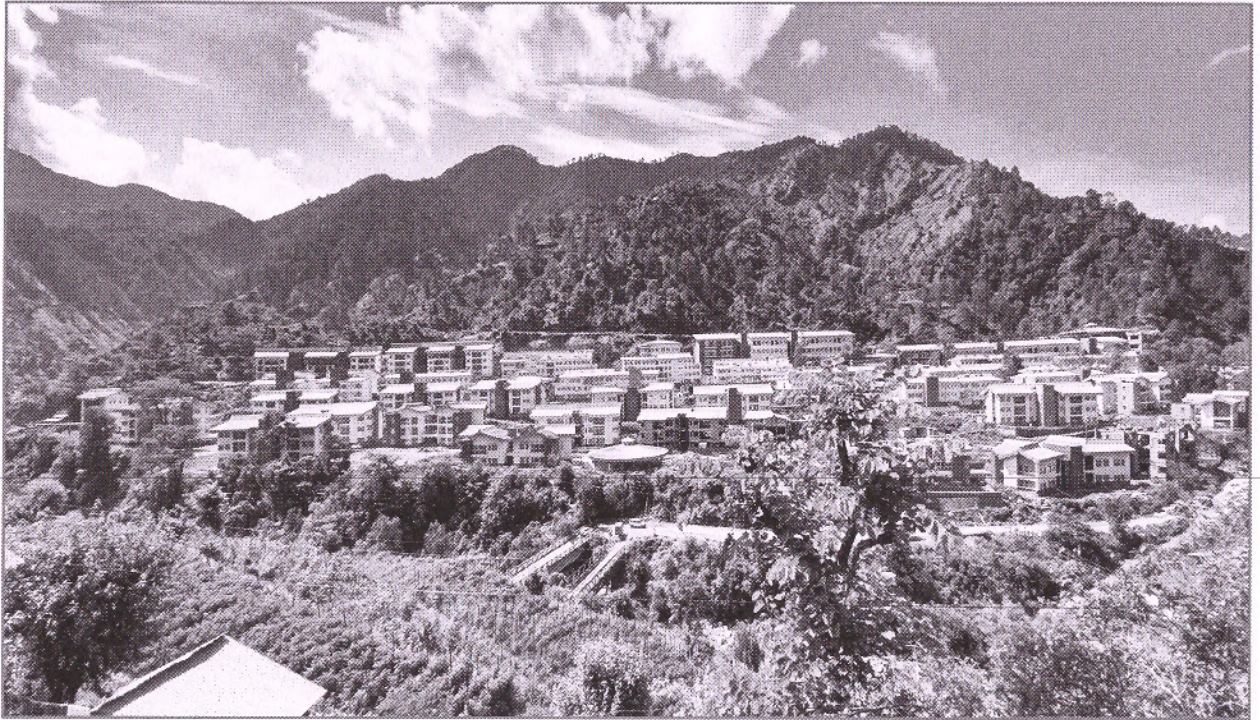
**One Time Payment, Hostel Fee, Mess Advance, and Medical Cover**

One Time Payment (payable at the time of admission)		Total
Non refundable	Admission Fee	5000
	Grade Card	1000
	Alumni Fee	2000
	Convocation Fee	2000
		10,000
Refundable on passing out or leaving the institute	Institute Caution Deposit	5000
	Library Deposit	2000
	Mess Security	5000
		12,000

Hostel fee and Mess advance per semester		Total
Hostel Fee	9,600	24,600
Mess Advance	15,000	

Medical Cover Charges		Total
Medical Cover Charges (per annum)	750	750

One time charges for year 4 and 5		Total
E-resources, Computational Facilities etc.	50,000	50,000



## **Holistic (Ayurveda) Wellness Centre**



## 1. Project Title

Holistic (Ayurveda) Wellness Centre

## 2. Objectives

Several prevalent diseases worldwide pose significant health challenges<sup>1</sup>. Cardiovascular diseases, such as heart attack and stroke, are the leading cause of global mortality, responsible for approximately 17.9 million deaths annually. Cancer is another major health concern, with an estimated 9.6 million deaths reported in 2018.<sup>2</sup> Respiratory infections, including pneumonia and influenza, contribute significantly to disease burden, especially in low-income countries. Moreover, diabetes affects millions of individuals globally, with around 422 million adults living with the condition in 2014<sup>3,4</sup>. To address these diseases, ongoing efforts in prevention, treatment, and public health initiatives are crucial.

Himachal Pradesh faces a significant burden of communicable diseases such as malaria, tuberculosis, and acute respiratory infections, as well as an increasing prevalence of noncommunicable diseases including cardiovascular diseases, diabetes, and cancer<sup>5</sup>. Given the state's abundant herbs and medicinal plants, Wellness centres based on Ayurveda can play a crucial role in addressing this burden. By harnessing the healing properties of these natural resources, these centers can provide holistic healthcare services, contributing to the management and prevention of both communicable and noncommunicable disorders in the region.

Furthermore, in Himachal Pradesh, around 40% of the population suffers from psychiatric and psychosomatic mental disorders.<sup>6</sup> Among these only 10% of patients suffering from mental illnesses receive treatment; while all patients do have the right to treatment, the shortage of money and psychiatrists hinders accessibility. **There is a cyclical link between mental health and poverty in Himachal Pradesh and India.** For example, a case-control study conducted in Delhi from November 2011 to June 2012 found that the intensity of multidimensional poverty increases for persons with severe mental illnesses (PSMI) compared to the rest of the population. **Poverty, a lack of employment and income, aggravates mental illness.** When individuals do not have the necessities for survival, mental disorders such as depression or anxiety can develop and intensify. Without treatment, these disorders build up, eventually leading medical professionals to diagnose individuals with serious mental illness (SMI). **Out of those in poverty, women, individuals of the lower castes and individuals with SMIs suffer the most, as they have the hardest time finding work or receiving external help. Furthermore, women with SMIs or those who are a part of the lower castes (Untouchables or Shudras) suffering from SMI are more likely to face multidimensional poverty.** Because society often

<sup>1</sup> World Health Organization. (2021). Global health estimates 2020: Deaths by cause, age, sex, by country and by region, 2000-2019.

Geneva: World Health Organization. Retrieved from <https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates>

<sup>2</sup> World Health Organization. (2021). Cancer. Retrieved from [https://www.who.int/health-topics/cancer#tab=tab\\_1](https://www.who.int/health-topics/cancer#tab=tab_1)

<sup>3</sup> World Health Organization. (2021). Diabetes. Retrieved from [https://www.who.int/health-topics/diabetes#tab=tab\\_1](https://www.who.int/health-topics/diabetes#tab=tab_1)

<sup>4</sup> World Health Organization. (2021). Respiratory infections. Retrieved from [https://www.who.int/health-topics/respiratory-infections#tab=tab\\_1](https://www.who.int/health-topics/respiratory-infections#tab=tab_1)

<sup>5</sup> National Health Profile. (2019). Health Status Indicators. New Delhi: Ministry of Health and Family Welfare, Government of India.

<sup>6</sup> "About Us – Himachal Pradesh State Mental Health Authority." About Us – Himachal Pradesh State Mental Health Authority, 4 Oct. 2021, [www.hpsmha.hp.gov.in/about](http://www.hpsmha.hp.gov.in/about).



looks down on women and individuals of the lower caste system, they are the least likely to receive treatment or assistance when they receive a diagnosis of mental illnesses. **The cyclical link between mental health and poverty in India can only be broken by giving people, regardless of income, social status or gender, equal access to mental health treatment.**

Overall, to address the sharp increase in lifestyle and communicable diseases and mental health problems, especially among the underprivileged and poor, the Indian Institute of Technology Mandi (IIT Mandi) conducted a Workshop on Ayurveda between 25th and 27th March 2022. The workshop was widely attended by renowned researchers in the areas of Ayurveda from India and abroad. Also, 20+ faculty and staff from IIT Mandi participated in this Workshop. As a part of the deliberations that took place in the Workshop, the following topics emerged: Mind, brain, and consciousness with applications from Ayurveda consciousness studies, meditation, traditional Indian medicine research, and other Indian performing arts (like dance, music, and Indian languages, etc.). Consequent to the Ayurveda Workshop, it is proposed to establish an Ayurveda Wellness Centre at IIT Mandi.

**Ayurveda Wellness Centre will provide holistic health care solutions that are grounded in Ayurveda for a host of problems like addiction to alcohol, tobacco, and drugs; depression; anxiety; stress; and, other mental disorders, etc.** For this purpose, the Ayurveda Wellness Centre will build upon the several Ayurvedic plants and herbs that grow in the hills of Himachal Pradesh State for the holistic treatment of different health problems among the rural poor and needy in Mandi district and adjoining areas.

The Centre's main objectives are

1. To **be a world leader and serve Indian society** via Ayurveda-related research interventions, knowledge, and tools concerning Ayurveda. It plans to do so by banking on state-of-the-art scientific methods in answering questions related to the effectiveness of Ayurveda on the human body, mental health, and wellbeing.
2. To serve as the **counseling center** for the local community on Ayurveda benefits for lifestyle and communicable diseases and mental health problems.
3. To **actively engage in skill development and impart education on Ayurveda** topics to the general public. These skill development programs would involve teaching and workshop programs and undergraduate or postgraduate students grounded in Ayurveda.
4. To **translate research into possible product prototypes** for disease diagnostics, therapy, and general wellbeing.
5. To **become self-sustaining** via service, skill development, and clinical research.

### **Vision**

To be a world leader and serve the underprivileged Indian society via service, research, skill development, translation, and outreach activities in areas concerning the Ayurveda.

### **Uniqueness**

The proposed Centre will be unique on account of the following:



1. First of its kind Centre in India.
2. Bring topics concerning Ayurveda and holistic health under a common umbrella.
3. Offer a socio-techno wellness facility for outreach.
4. Offer an interdisciplinary mix of therapies with a scientific basis.

### 3. Deliverables

The Ayurveda Wellness Centre plans to have several deliverables/outcomes that are going to be beneficial to society. Some of the outcomes are detailed below:

1. 10000+ beneficiaries per year catered to by the Wellness Centre.
2. Employment for 84 people at the Wellness Centre and several others who support.
3. Promotion of several Ayurveda interventions grounded in scientific evaluation at the Wellness Centre.

### 4. Research Methodology

Figure 1 shows the pillars of research under the Ayurveda Wellness Centre. As shown in Figure 1, the Ayurveda Wellness Centre is intended to be designed under the main theme of mind, body, and consciousness. The research under the Centre would include the following Ayurveda areas: Panchakarma, Ayurveda Lifestyle, Ayurvedic Diet, Herbal Medicine. The research done at the Ayurveda Wellness Centre would be grounded in the interdisciplinary scientific methods and may involve a number of methodologies from cognitive science, neuroscience, computer science, sports science, chemistry, biology, and experiment design. The Wellness Centre will provide data to researchers for testing hypotheses concerning different therapies based upon the Ayurveda.

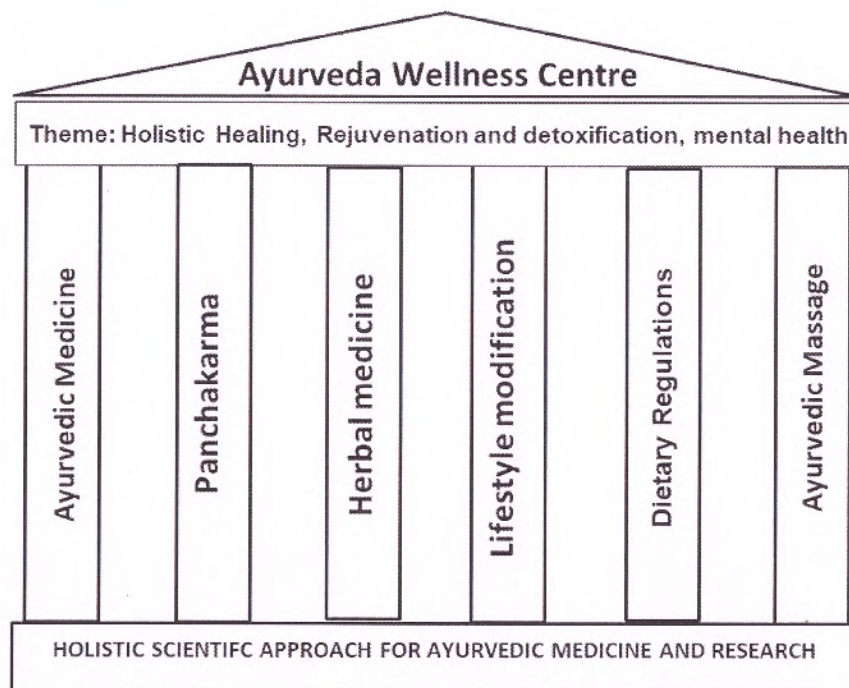


Figure 1. The conceptualization of the Ayurveda Wellness Centre grounded in mind, brain, and consciousness via applications from Panchakarma, Ayurveda Lifestyle, Ayurvedic Diet, and Herbal medicine.

### **A. Ayurveda**

Some of the research projects under this theme include

1. Relation of Prakriti on the effectiveness of meditation therapies for psychological and lifestyle disorders - personalized medication in the Ayurveda context
2. Relationship between a person's Prakriti based upon Vata, Pitta, and Kapha in Ayurveda, and other measures like risk-taking, emotional quotient, intelligence quotient, disease susceptibility and western personality measures

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### **B. Integrated Ayurveda and Meditation**

Some of the research projects under this theme include:

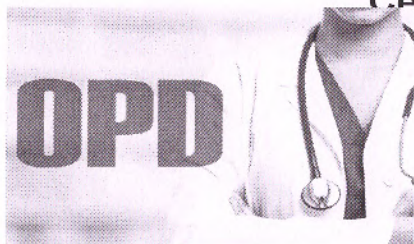
1. EEG, fNIRS, and physiological data analysis of common meditation practices
2. Understanding Neurofeedback and biofeedback mechanisms level to improve meditation practices

## **5. Therapies**

The Ayurveda Wellness Centre will include a number of therapies for both the healthy and clinically sick population, which suffer from a number of ailments. Figure 2 shows the different wellness therapies that would be made available to people at the Ayurveda Wellness Centre. As shown in Figure 2, modalities will include Panchakarma, Ayurveda Lifestyle, Ayurvedic Diet, Herbal medicine. These therapies will be targeted at different ailments for the clinically sick people as well as healthy people and these therapies will also support research and translational activities.



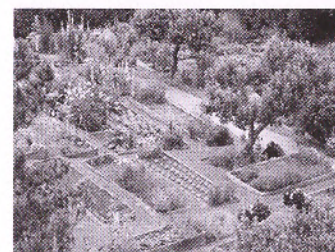
## Ayurveda Wellness Centre



**Ayurvedic Medicine**



**70 Bed  
IPD**



**Herbal Garden**



**Ayurvedic  
Pharmacy**



**Ayurvedic Kitchen**



**Meditation Therapy**

Figure 2. Different wellness facilities in the Ayurveda Wellness Centre

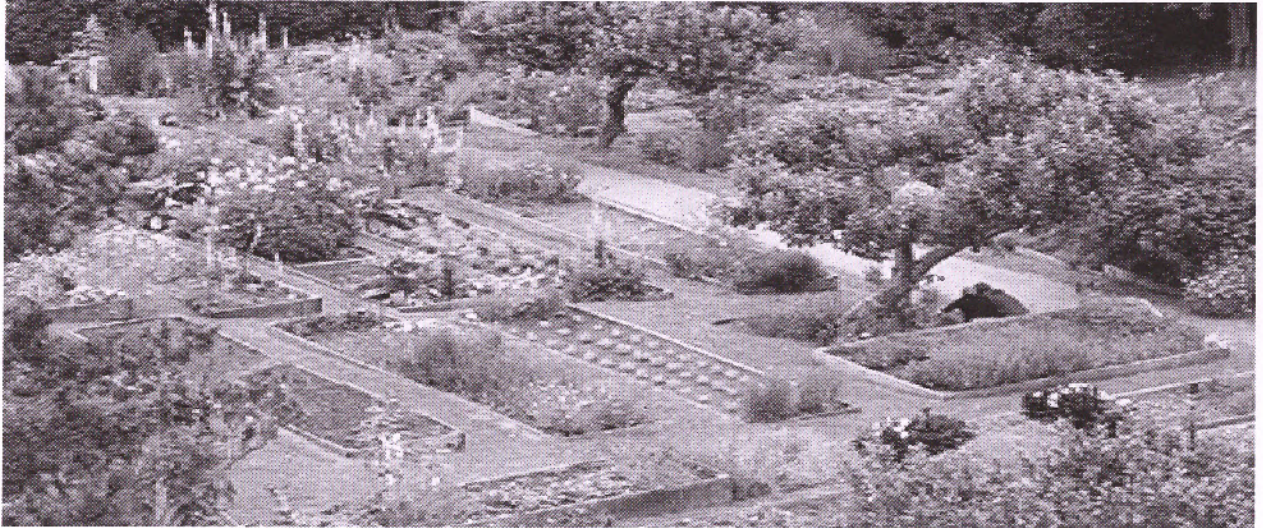
The Ayurveda Wellness Centre will provide accommodation facilities to internal visitors, who want to stay in the Centre for an extended period of time to reap the benefits of Ayurveda interventions. Also, the Ayurveda Wellness Centre will provide an outpatient facility for day visitors. The Ayurveda Wellness Centre will house facilities for Panchakarma, Massage, and a kitchen garden for growing vegetables and ayurvedic herbs, and a facility for dairy. In addition, the Centre will house meditation rooms, where trained Ayurvedic therapists will guide visitors on these forms. The Ayurveda Wellness Centre would also provide high-tech neurofeedback, AR/VR, and physiological equipment for monitoring biosignals in the brain and body. These instruments will allow the Wellness Centre to quantify benefits of the therapies performed. Table 1 shows the total budget required for lab items for different labs in the Centre.





Figure 3. Representative pictures of the Panchkarma facility (left) as well as the steam chamber (right).





**A representation of Proposed Herbal garden**