



विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY



<http://awadh.iitrpr.ac.in> | IIT Ropar - Technology and Innovation Foundation
INDIAN INSTITUTE OF TECHNOLOGY ROPAR

AWaDH –Spoke Agreement

TECHNOVATIONS IN THE DOMAIN OF AGRICULTURE & WATER



**GOLDEN JUBILEE CENTRE FOR ENTREPRENEURSHIP
AND INNOVATION (GJCEI)
GURU NANAK DEV UNIVERSITY AMRITSAR (GNDU)**

This Memorandum of Understanding Between



**The IIT Ropar-Technology and Innovation Foundation
(iHub - AWaDH)
Indian Institute of Technology Ropar (IIT Ropar)**



AND



**Golden Jubilee Centre for Entrepreneurship
and Innovation (GJCEI)
Guru Nanak Dev University Amritsar
(GNDU)**



This Memorandum of Understanding

BY and Between

This Memorandum of Understanding (MoU) is entered into on 23-09-2024 by and between the **IIT Ropar Technology and Innovation Foundation for the Agriculture & Water Technology Development Hub (AWaDH)** established by the Department of Science & Technology in the framework of National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS) at the Indian Institute of Technology Ropar established by the Ministry of Education, Government of India, under the Institutes of Technology (Amendment) Act, 2011, having its office at Rupnagar - 140001, Punjab, an Institute of national importance (hereinafter referred to as “iHub -AWaDH”),

And

Guru Nanak Dev University was established at Amritsar on November 24, 1969 to mark the 500th birth anniversary of Sri Guru Nanak Dev Ji. It is both a residential and an affiliating university. In conceiving the future course of the University, the objectives enshrined in the Guru Nanak Dev University Act 1969, emphasised that the new University would make provision for imparting education and promoting research in the humanities, learned professions, sciences, especially of applied nature and technology.

1. OBJECTIVES OF THE MoU

To facilitate a wide range of interactions between iHub-AWaDH and Guru Nanak Dev University, Amritsar and thereby lend greater strength to the activities of mutual interest aimed at serving the society through the technology and innovations in the domain of, but not limited to, sustainable agriculture and water in the framework of National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS).

2. AREAS OF COLLABORATION

The principal technical area of collaboration between iHub-AWaDH and Guru Nanak Dev University will be in the domain of Agriculture and Water to deploy cyber-physical systems for, but not limited to,

- a. Water/industry discharge assessment, treatment, and management,
- b. Advancement of land resources and farm preparation,

- c. Agriculture automation and precision farming,
- d. Harvesting and post-harvesting,
- e. Agribusiness marketplace,
- f. The application of the Internet of Things (IoT) systems and artificial intelligence (AI) in the domain of Agriculture & Water

The bilateral collaboration would capitalize on the complementary strengths of IIT Ropar and Guru Nanak Dev University, Amritsar in engineering, agriculture and regulatory matters, respectively, to achieve the goal of technological innovation in the domain of Agriculture and Water.

3. PROPOSED MODES OF COLLABORATION

iHub- AWaDH and Guru Nanak Dev University propose to collaborate through the following:

- a. Co-operation in areas of research, education, policy inputs and outreach for the development and dissemination of efficient technologies for sustainable use and rejuvenation of natural resources in agriculture.
- b. Collaborative projects based on individual or joint funding in areas of mutual interest. These would also include targeted, short-term requests from one partner to other(s) to address specific issues outside its area of strength but within the combined domain of both partners.
- c. Conferencing, consulting, and wide-ranging intellectual exchanges and other outreach actions to build knowledge consortia, which can offer innovative and workable solutions and provide a roadmap for sustainable development of the state in areas of water and agriculture.
- d. Organizing joint conferences, workshops, and schools in the area of interdisciplinary cyber physical systems.
- e. Supervising joint project/UG/PG/PhD students for their project and thesis work as per the norms of concerned host institute.
- f. Writing joint projects to national and/or international funding agencies and executing joint consultancy services.
- g. Exchange of personnel including students, faculty members and technical staff between iHub — AWaDH and Guru Nanak Dev University for the purpose of greater integration, capacity building and facilitating a close-knit working

arrangement wherever needed by the nature of the task at hand. Also to take skill-building initiatives for enhancing the CPS skill set at all levels of education.

- h. Supporting entrepreneurial culture to drive deep tech startups in the domains of cyber physical systems in the domains of agriculture and water technologies.
- i. Any other appropriate mode of interaction agreed upon between iHub-AWaDH and Guru Nanak Dev University.
- j. Appropriate written agreements specific to particular collaborative works will be made as and when necessary.

4. CONFIDENTIALITY

- a. Individual faculty involved at iHub— AWaDH, and Guru Nanak Dev University agree to hold in confidence all information/data designated by the parties as being confidential which is obtained from either party or created during the performance of the MoU and will not disclose the same to any third party without written consent of the other party.
- b. The above confidential clause under this MoU excludes information/data possessed by either party before entering into this MoU or independently developed and/or information already available through the public domain, or information which is required to be disclosed by any law or disclosure of such information is directed by a court, tribunal or any competent authority.

5. TERM AND TERMINATIONS

- a. The collaboration will be coordinated by designated persons from the two Institutions. For all issues related to finances, manpower, space and other infrastructure relevant to the collaboration, the designated individuals from both institutes would obtain necessary approvals and sanctions as when required.
- b. Guru Nanak Dev University will establish AWaDH — partnership at their premises to enable students and faculty members to actively engage in the R & D programs.
- c. This MoU shall be valid for five (05) years unless extended by mutual consent of both the Parties. A Party willing to extend the MoU shall give written notice of its intention to extend, at least 60 days prior to the expiry of this MoU, which may be accepted by the other Party within a period of 30 days from the receipt of such notice.

- d. This MoU may be amended or terminated by mutual written agreement of the parties at any time.
- e. Either party shall have the right to terminate this MoU with 60 days prior written notice to the other party.
- f. The termination of the MoU whether mutual or unilateral, shall not affect the obligations of the participant under any Research Agreement. The confidentiality clause obligation as referenced in clause 5 shall survive such termination.

6. MISCELLANEOUS

- a. All intellectual properties including any patent, copyright, design, etc. (hereinafter referred to as the “IPs”) which are developed jointly or which arise out of activities undertaken jointly by the Parties under this Agreement will be owned based on the extent of the contribution made by each party (hereinafter referred to as “Joint IP”). In respect of joint IPs, applications can be filed for protection by joint consent only, and the expense incurred on patent filing will be borne by all parties.
- b. Sharing of authorship in publications arising out of or in connection with joint activities shall be in accordance with the respective contributions to the publication.
- c. The signed MoU signifies only a strong intent and commitment towards the goals specified in the document. Both institutes will have to follow all the rules/regulations and obtain appropriate sanctions for implementing all the joint activities.

7. DISPUTE SETTLEMENT

Any disputes arising out of the interpretation or implementation of the MoU shall be settled amicably by discussion between parties. In case the dispute is not resolved, it will be referred to arbitration by arbitrator appointed by mutual consent of both the parties from Amritsar. The courts at Amritsar only shall have only jurisdiction to decide any dispute between the parties.

8. COORDINATION COMMITTEE







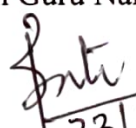
The following will constitute the Coordination Committee to execute, monitor and review the collaborative program between iHub — AWaDH and Guru Nanak Dev University:

- a) Dr. Pushendra P. Singh, Project Director - AWaDH / IIT Ropar or his nominee(s)

- b) Dr. Radhika Trikha, Chief Executive Officer – AwaDH or nominee(s)
- c) Dr. Karanjeet Singh Kahlon, Registrar - Guru Nanak Dev University or nominee(s)
- d) Dr. Preet Mohinder Singh Bedi, Coordinator, University Industry Linkage Programme, Guru Nanak Dev University Amritsar
- e) Prof. (Dr.) Pratap Kumar Pati, Coordinator, Golden Jubilee Centre for Entrepreneurship and Innovation, Guru Nanak Dev University Amritsar

9. SIGNED IN DUPLICATE

This MoU is executed in duplicate with each copy being an official version and having equal legal validity. By signing below, the parties, acting by their duly authorized officers, have caused this Memorandum of Understanding (MoU) to be executed, effective as of the day and year first above written.

<p>Signed for and on behalf of: Indian Institute of Technology Ropar</p>   <p>Dr. Pushendra P. Singh Project Director, IIT Ropar — TIF for AwaDH Indian Institute of Technology Ropar</p>	<p>Signed for and on behalf of: Guru Nanak Dev University Amritsar</p>  <p>Dr. Karanjeet Singh Kahlon Registrar, Guru Nanak Dev University Amritsar</p>
<p>Key Contact Person and witness from IIT Ropar:</p>   <p>Dr. Radhika Trikha Chief Executive Officer IIT Ropar — TIF for AwaDH Indian Institute of Technology Ropar</p>	<p>Witness from Guru Nanak Dev University:</p>  <p>Dr. Preet Mohinder Singh Bedi Coordinator, University Industry Linkage Programme, Guru Nanak Dev University Amritsar</p> <p>Witness from Guru Nanak Dev University:</p>  <p>Prof. (Dr.) Pratap Kumar Pati Coordinator, Golden Jubilee Centre for Entrepreneurship and Innovation, Guru Nanak Dev University Amritsar</p> <p>23/9/2024</p>