



MEMORANDUM OF UNDERSTANDING

BETWEEN

INSTITUTE OF LIVER AND BILIARY SCIENCES, DELHI

AND

INDIAN INSTITUTE OF TECHNOLOGY, DELHI

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21/08/20

MEMORANDUM OF UNDERSTANDING

BETWEEN

INDIAN INSTITUTE OF TECHNOLOGY DELHI

Having its registered address at:
Hauz Khas, Delhi
Hereinafter called as 'IITD'

AND

INSTITUTE OF LIVER AND BILIARY SCIENCES, DELHI

Having its registered address at:
Vasant Kunj, Delhi
Hereinafter called as 'ILBS'

INDIAN INSTITUTE OF TECHNOLOGY DELHI, a public educational institution located in Delhi, having its office at Hauz Khas, Delhi -110016, India, established in 1961 and operating autonomously under Ministry of Human Resource Development, Government of India. It is an Institute of national importance with the mission to generate new knowledge by engaging in cutting-edge research and to promote academic growth by offering state-of-the-art undergraduate, postgraduate and doctoral programs and to undertake collaborative research projects which offer opportunities for long-term interaction with academia and industry.

INSTITUTE OF LIVER AND BILIARY SCIENCES, Delhi was established by the Govt. of the National Capital Territory (NCT) of Delhi as an Autonomous Super-Specialty Medical and Research Institution. It is a dedicated centre of excellence for the diagnosis, management and advanced training and research in the field of liver, biliary and pancreatic diseases. The Institute is a Deemed-to-be university, recognized by the HRD Ministry, and runs several 3-year degree courses recognized by the MCI, and varied one-year post-doctoral training courses. It also has an established liver transplant program, the largest in the Govt. sector in India. It has comprehensive facilities for basic research including a national liver disease bio-bank, advanced animal house and laboratories of liver regeneration, liver immunology, biology and physiology.

Aims/ Objectives:

Considering the large number of experts with their excellence in respective fields in these two institutes located in close geographic proximity, there is immense collaborative potential encompassing academic, research and human resource development with a high translational impact.

- ILBS and IITD agree to collaborate for developing the “**ILBS-IITD Collaborative Platform**”.
- Both ILBS and IITD, wish to collaborate by signing a Memorandum of Understanding [MoU] to establish the “**ILBS-IITD Collaborative Platform**” for initiating wide ranging collaborations involving academic, research, product, process and human resource development which will have a profound social and economic impact for our country.

Raghu

Kauri
21/09/20

Presently, the MoU envisages but is not restricted to the following **Thrust Areas** in the above collaboration:

- Use of Artificial Intelligence in Liver & Biliary diseases.
- Establishment of an Incubation Centre at ILBS, with the help of FITT (IIT-D).
- Bio-sensor development, Therapeutic Biological, Plant Chemistry.
- Computational Biology and Big Data.
- Material Sciences, Liver Dialysis Membranes and Machines
- 3D Bio-printing, Bio-artificial Liver
- Processes such as regenerative tissue growth
- Use of nano-sciences in diagnosis and effective Drug delivery
- Applied principles and design concepts of engineering to healthcare

Considering the growing population burden, there is an urgent need for self-sufficiency in indigenous technology and product development for health service sector. The mission of collaborative platform is to promote a systematic organized approach to solve the unmet challenges in medical practice and health services by engaging experts from multiple disciplines both within and outside the scope of a problem. This collaborative platform may help in critical identification of the problems faced by the practicing doctors in diverse situations ranging from primary health center to tertiary care super-specialty hospitals and initiate the work by engineering team for sustainable solutions and their possible commercialization through mass production and after following the regulatory guidelines. Initiation of developing specialized human resources in interdisciplinary domains bridging engineering and medical specialty with formulating new courses, and other novel interaction will be another important goal of the Collaborative Platform including setting up of an Incubation Centre at ILBS.

Scope of Collaboration:

To initiate the Collaboration, the following Scopes may be considered:

- To start IITD-ILBS Colloquium Series with at least one presentation organized per semester in each Institution.
- To make intramural funding for the projects in both IITD and ILBS, in order to initiate the collaborative research among different medical and engineering disciplines of these two institutions.
- To plan and organize a joint summer school/workshop for students from IITD and ILBS, commencing summer of 2021 as an annual event. The topic of the Workshop and modalities shall be worked out later.
- To allow free access of registered PhD students of both institutions to attend lectures and courses relevant to their area of research in the each other institution.
- To set up jointly a self-sustainable Bio bank-research facility in ILBS, to help for translating laboratory research ideas to bed side medicine with infrastructure for validation according to regulatory requirements. The ILBS clinical and research infrastructure would be useful for this purpose.
- To encourage for initiating the process of developing **Technology Business Incubator (TBI)** and **"Start Ups"** in biomedical field with a focus on "cutting edge medical practices" by attracting talented research students and faculties. This will all be explored in detail by a separate joint committee.

Roles of Partner Institutes:

The Collaborative Platform will connect the faculties, students and researchers across the different disciplines in ILBS and IITD who can develop specialized groups for academic and research interaction leading to exploration of different ideas for fruitful translation as well as creating learning tools.

Raghu

Asani
21/09/20

IITD: IITD will be responsible for the development and hosting of the "ILBS-IITD Collaborative Platform" website, in collaboration with the ILBS. Required resources including manpower may be provided at IITD to manage the day to day issues of web-based interaction as well as interact with the Coordinators. Coordinator appointed from IITD will coordinate on behalf of IITD and provide assistance to designated counterparts at ILBS.

ILBS: Dean (Academics), ILBS in consultation with GM (IT), ILBS will coordinate on behalf of ILBS and provide assistance to their designated counterparts at IITD for the running and maintenance of the website for the "Collaborative Platform". Additional Resources required at ILBS to manage website would also be made available to the website team.

Management Structure:

Both institutions will appoint a Coordinator for the activities.

The activities of the Collaborative Platform (CP) will be guided and monitored by a two-tiers management structures the following committees:

i) **Steering Committee:** It will be the highest level committee mentoring the activities of the Collaborative Platform including initiation/continuation/discontinuation of work, approval of joint collaborative projects for submission to funding agencies and to suggest mechanisms to achieve objectives of MOU, monitor the activities under the MOU, to expand the scope of MOU, to review the overall progress and ensure self-sustainability over a period of time. The Director ILBS and Director IITD will jointly Chair the Committee whose composition will be as:

- | | | |
|----|--|--------------------|
| a) | Dean R&D, IITD and Dean (Academics), ILBS | - Member |
| b) | Two External Members in relevant areas
(to be nominated jointly by IITD & ILBS) | - Member |
| c) | Two Internal Senior Faculty Members
(to be nominated jointly by IITD & ILBS) | - Member |
| d) | Two Coordinators (one each from IITD & ILBS) | - Member-Secretary |

The tenure of all ex-office Members will be co-terminus with their occupancy of their respective posts. All other Members will have a fixed term of 2 years. The Steering Committee will meet at least once a year, alternatively at IITD and ILBS.

ii) **Technical Committee:** The Technical Committee will guide and monitor the day-to-day activities and functioning of the Collaborative Platform according to the work plan/agenda mentioned earlier. The Dean R&D, IITD and Dean Academics, ILBS will jointly Chair the Committee whose composition will be as:

- | | | |
|----|--|----------|
| a) | Two Coordinators of the Steering Committee | - Member |
| b) | One External Members in relevant areas
(to be nominated jointly by IITD & ILBS) | - Member |
| c) | Two Internal Senior Faculty Members
(to be nominated jointly by IITD & ILBS) | - Member |

The Technical Committee will meet at least once in six months. It can constitute subcommittees for a specific purpose and duration as and when needed to facilitate the work of the Collaborative Platform. The committee along with the concurrence of Coordinators will submit recommendations for major decisions to the Steering Committee.

Logik

Isani
21/09/20

Intellectual Property Rights (IPR):

- The Steering Committee will develop a “ILBS-IITD Framework for Data Sharing and IPR” which will monitor the projects implemented under this MoU. Based on the project specific requirement the Steering Committee is empowered to make variations to the general governance framework for smooth integration with existing IPR policies of the two institutions.
- Both IITD and ILBS agreeing that any other implementation frameworks including, Collaborative Research Agreement (CRA), Material Transfer Agreement (MTA), Data and IP Sharing and access frameworks shall be in line with the broad understanding of this MoU. In case of any ambiguity the frameworks recommended by the Steering Committee stated above shall be binding for all the research projects initiated and implemented under the umbrella MoU.
- The parties agree that there can be more agreements related to the implementation of the research projects under this MoU based on the specific requirements including research plan, licensing, tech-transfer, publications and commercialization of the resultant projects. Products shall mean any technology know-how, intellectual property or material those results from the collaborative endeavor between the parties.
- Any Background Intellectual Property (BGIP) shall remain the sole and exclusive property of the Institute to whom it belonged prior to the commencement of this MoU and need to be considered beyond scope of this MoU.
- Both IITD and ILBS shall jointly and equally co-own the know-how, technology or IPR and publications that are being generated during the implementation of the collaborative projects and resulting from them under this umbrella MoU to be termed as Project-IP (PIP).
- Both IITD and ILBS shall share cost towards the know-how/ IP including filing, maintenance, prosecution, infringement action and scouting of industrial partner where ever applicable on equal basis. Hence, unless specifically agreed otherwise through a separate Agreement, proceeds from the exploitation of the results including sharing of revenues and benefits due to transfer of PIP & jointly developed technology or their commercialization shall be on equal basis.

Disputes among the Parties: Governing Law and Jurisdiction:

- **Disputes:** In case of any dispute resulting from or related to this MoU, the Parties agree to attempt to resolve such dispute amicably, and shall escalate within their respective organizations, any such dispute.
- **Governing Law:** This MoU shall be governed and construed according to the laws of the country for each participating party. Any dispute will jointly resolve involving Director, IITD and Director, ILBS in a spirit of independence, mutual respect, and shared responsibility. However, in case it is not, it shall be governed by the Laws of India and is subject to the jurisdiction of the Courts of Delhi.

Ragel

Sanjiv
21/09/20

General:

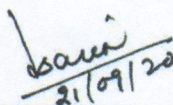
This MoU shall be valid for a period of five (05) years from the date of signing the agreement, with a further extension for 5 years unless otherwise decided after review of performance. Decisions about its extension, continuation or otherwise shall be jointly decided by ILBS and IITD six months prior to end of the above-mentioned period. Specific commitments made prior to such intimation or natural expiry of this MoU, shall be honoured by both the parties. However, the rights/ obligations arising from the implementation of the MoU shall survive the termination of the MoU.

- The MoU may be terminated by either party after giving a notice of six months (180 days) provided that this clause will be operative only if either party violates the terms of MoU or if the parties feel that no useful purpose would be served by further continuing it either due to change in circumstances or change in constituting parties.
- Considering the importance of longevity of such large projects, "the Parties" will ensure high level of performance and productivity of the Collaborative Platform and uninterrupted long-term collaboration.

The MoU is legally non-binding and all activities will be based in the spirit of independence, mutual respect and share responsibility.

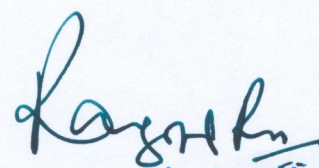
This MoU is signed and approved by the respective authority of each partner.

Signed and delivered by


21/09/20

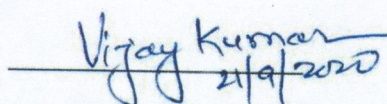
Director, ILBS
For ILBS, Delhi

Dr. S. K. Sarin, M.D., D.M.
Director
Institute of Liver and Biliary Sciences
D-1, Vasant Kunj, New Delhi-110070, India



प्रो. वी. रामगोपाल राव
Prof. V. Ramgopal Rao
Director, IIT Delhi
For IIT Delhi
भारतीय प्रौद्योगिकी संस्थान दिल्ली
Indian Institute of Technology Delhi
हौज खास, नई दिल्ली-16/Hauz Khas, New Delhi-16

In the presence of

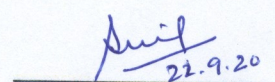

21/9/2020

Dean (Academics), ILBS

Dr. VIJAY KUMAR
Dean, Academics
Institute of Liver and Biliary Sciences
Sector D-1, Vasant Kunj
New Delhi-110 070

Date: 21/9/2020

Place: New Delhi


21.9.20

Dean (R&D), IITD

प्रो. सुनील कुमार खरे
Prof. Sunil Kumar Khare
संकायाध्यक्ष (अनुसंधान एवं विकास)
Dean (Research & Development)
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