

MEMORANDUM OF UNDERSTANDING

Between

Punjab Remote Sensing Centre

Punjab Agriculture University Campus
Ludhiana



Guru Nanak Dev University

Amritsar 143005, Punjab

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Guru Nanak Dev University

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THIS MEMORANDUM OF UNDERSTANDING (the "MOU") is entered at Guru Nanak Dev University, Amritsar on 03.05.2018

- a. **Parties to the MoU** :
- 1 **Guru Nanak Dev University, Amritsar (hereafter referred to as GNDU)**
 - 2 **Punjab Remote Sensing Centre, Punjab Agricultural University Campus, Ludhiana an autonomous organization under the Government of Punjab (hereafter referred to as PRSC).**

b. **Purpose / Objective of MoU:**

The purpose of this agreement is to provide framework for the conduct of an institutional cooperation agreement between **GNDU** and **PRSC** for research in thematic areas of mutual interests.

Broad Objectives of the common interest of both the institutions are given below:

1. Student and faculty exchange for academic and research activities (e.g., internships, joint research supervision, joint academic programmes, faculty development etc.) of mutual interest and benefit to the society at large.
2. Consultancy services and solution at state, national and international level as feasible on mutual interest in the field of Geospatial Technologies (Remote Sensing, GIS, GPS, ICT), surveys and allied techniques based on expertise and resource availability in the respective institution.
3. Leveraging technical potential and legal use of resources for development of processes, tools, techniques for joint academic research and professionally commercial projects across agencies on mutual interest as arises time to time for institutional development, capacity building and propagation & promotion of technology for societal benefits as may deemed fit and decided by Heads of both the institutions.

c. **Sope of MoU:**

The scope of the Institutional cooperation agreement between **Guru Nanak Dev University, Amritsar** and **PRSC** is outlined below:

1. Permission to use each other's laboratory and research facilities subject to prior mutual consent (without payment of any charges to either party)
2. The formal institutional cooperation programme between **GNDU** and **PRSC** will focus on improving the understanding in the field of Geospatial Technologies (Remote Sensing, Geographical Information System, Global Positioning System, Web/Mobile Based Applications etc)

Role of Guru Nanak Dev University, Amritsar and PRSC.

Broadly **Guru Nanak Dev University, Amritsar** and **PRSC** will work together jointly to develop new applications relevant to the fields within the scope of the MoU. Both will thrive to develop framework which would be helpful in developing and improving technologies related to the Geospatial Technologies and related fields.

3. **Guru Nanak Dev University, Amritsar** and **PRSC** will work together to develop new applications for the mutual benefits and for the benefits of the other relevant users.
 - (i) **Coordinator, University Industry Linkage Programme** from **Guru Nanak Dev University, Amritsar** will be the main coordinator (point of contact) for research and development at **GNDU** and **lead coordinating Scientist (Director, PRSC)** will be the coordinator (point of contact) for research and development from **PRSC**. **Coordinators from both parties shall nominate three members each from their side for internal coordination committee.** Under the guidance of respective Coordinators, they will retain overall responsibilities of executing the scientific collaboration items and ensure coordination amongst all involved. Respective Head of Institutes, if required, may change the research coordinators.
 - (ii) **Dissemination:** The research outcome will be documented internally for future references, presented at national and international conference / workshops with mutual consent and joint research papers will be published in journals with mutual consent.
 - (iii) **Exchange.** The duration of visits will be decided mutually by lead researchers as per requirement of the project.

d. **Effective date of MoU.** This agreement shall come into force from the date of its signature.

e. **Period / Duration of MoU.** MoU will be valued for the period of 05 years from the date of signature of parties and can be extended with mutual consent depending upon the scope of ongoing and future work.

f. **Brief of Partners:**

PRSC, an autonomous organization under the Government of Punjab, is the apex body in the State for all Remote Sensing (RS), Geographic Information System (GIS) and Global Positioning System (GPS) related works. It is designated as a Nodal Agency by the Govt. of Punjab for geospatial needs of the State and also acts as the centralized hub for the geo-spatial data to all the user departments. PRSC has also been recognized as "Centre of Research" by Centre of Advanced Studies in Geology & Department of Geography, Panjab University, Chandigarh and Punjab Agricultural University (PAU), Ludhiana for carrying out research work by post graduate and Ph.D students. PAU and PRSC are also jointly running M.Tech. Programme in Remote Sensing & GIS.

Guru Nanak Dev University, Amritsar is a state university accredited at 'A' grade level by NAAC for the third time and has been awarded University with Potential for Excellence status by UGC. The university is equipped with state-of-the-art research facilities and has highly trained and qualified faculty working in diverse research areas including life sciences, environmental sciences, chemistry, physics, social sciences etc. Besides teaching and academic research, **Guru Nanak Dev University, Amritsar** is engaged in sponsored research, consultancy services and development projects with various national and international agencies.

g. **Project Site / Place of MoU.**

Project / consultancy work will be conducted at **Guru Nanak Dev University, Amritsar** and **PRSC** or onsite as per requirement. Output processing, methodology development will also be conducted at these two places or their designated laboratories respectively.

h. **Responsibilities of each Party of MoU.**

i) Both parties mutually agree to identify various areas of interest and depute faculty/staff as per the requirements with mutual consent.

ii) Both the institutions shall identify faculty for accomplishing the above laid down objectives. Each party shall attempt to make such faculty available as and when required. Such identified faculty may be given Visiting or Adjunct Faculty appointments in accordance with the norms and procedures of the host institution.

iii) Both the institutions shall organize regular faculty interactions/meets to promote research interaction and collaboration among their faculty members. These meets may be organized for entire institute or specific to any department / school / division as per mutual convenience.

iv) Every individual project collaboration will have a separate agreement/terms of reference that addresses issues such as Intellectual Property Right (IPR), funding pattern, disclosure of confidential information etc. Each party shall bear its own cost.

v) Nominate Coordinators as nodal contacts to represent the organization and promote interface so as to plan, implement, monitor and review the various activity schedules from time to time. Draw the attention of the top management in case of any interface or operational problems.

vi) After identification of any activity, a formal Agreement for the specific activities outlining the details of the scope of work, financial implications, phasing of work output / deliverables, phasing of

payments, Intellectual property rights and other term between **Guru Nanak Dev University, Amritsar** and **PRSC** shall be necessary before any work is formally initiated or any financial commitment becomes operative. The approval will be routed through the nodal contacts on either side.

vii) All attempts will be made to ensure that developments and projects are accomplished to a very high degree of quality, with parsimony of time.

viii) Each Party shall make its respective Contributions to the Project.

ix) Each Party confirms that it will act in good faith when complying with its respective obligations under this MoU.

i. General terms of Cooperation:

a. The institutional cooperation will primarily result in enhancing the technical and scientific understanding.

b. The cooperation scheme is expected to provide a platform for mutual exchange of ideas and development of understanding on Geospatial Technologies and related fields.

c. This cooperation agreement will be monitored through periodic reviews by joint committee constituting the Heads of Institutes as Co-Chairs either at **Guru Nanak Dev University, Amritsar** or at **PRSC**. The review will cover the following aspects:-

(i) Measure the progress of the activities and the achievements against the work plan.

(ii) Evaluate the quality of work completed and advise on the methodology to be applied for future work.

(iii) Identify and assess factors affecting the progress and quality of the work and suggest corrective measures to remove hurdles related with the implementation of the programme.

j. Security/ Non disclosure of confidential information of the parties. The work carried out under the MoU will be unclassified and the dissemination / publication of results will be as per IPR points as discussed in following section (l)

k. Protection of IPR. In broad terms, the IPR issues will be based on the following principles:

(i) All research results and foreground information as well as foreground intellectual property rights, generated during the Joint Research Work, whether or not legally projected, shall be owned jointly by **Guru Nanak Dev University, Amritsar** and **PRSC**.

(ii) **Guru Nanak Dev University, Amritsar** and **PRSC** shall consult each other before publishing any research results and foreground information generated during the joint research to ensure that no proprietary information is released and that foreground intellectual property rights are not jeopardized. Post consultation, any such publication proposal, shall be deemed approved in the event there is no objection from the party seeking to oppose within a period of thirty (30) days of receipt of a content(s) of such a publication, both parties agree to suitably modify / amend the content thereof in order

to avoid disclosure of confidential information or patentable material. In any case, a party may delay publication till a period of ninety (90) days or the filing of a provisional application whichever is earlier.

- (iii) **Guru Nanak Dev University, Amritsar** and **PRSC** shall not disclose any research result and foreground information, generated during the joint research, to any third party without seeking prior written permission from each other. Any scientific information exchanged / shared between the parties for joint research / supervision will not be transferred to third party without consent of the parties. Here it is worth mentioning that both the parties should be diligent and cautious enough to avoid any public unrest in any manner.

l. **Right and Obligations.**

The designated personnel of each party shall meet (at least once a year) to plan the activities and review the progress of the work. The parties shall also discuss their mutual concern, if any, and shall arrive at a broader consensus in formulating the modalities for carrying out the work relating to the agreement. The minutes of the meeting shall be kept in writing and shall be forwarded to the Head of Institution of each party.

The authorized and designated official of each party shall be responsible for organizing the meetings, recording the minutes and circulating them to all concerned.

The parties shall inform each other about the attained research results or work progress, and shall exchange interim and final reports in the context of the subject of this agreement.

- m. **Termination of MoU.** This agreement shall remain in force for period of five years from the date of its signature and the same may be renewed further on mutual agreement. The terms of the agreement may be amended at any time subject to mutual written agreement. Both parties may agree to exit with mutual consent in case the desired objectives could not be achieved.

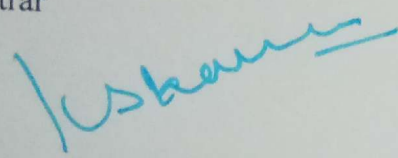
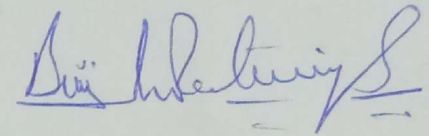
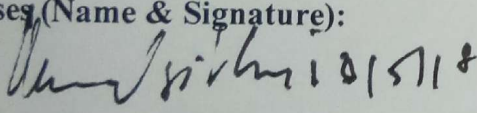
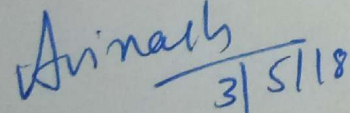
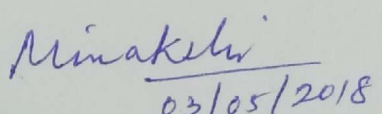
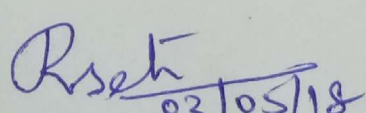
- n. **Arbitration / Dispute Resolution among Parties.** In the event of any dispute arising among the parties, the parties shall make possible efforts to resolve the same amicably, failing which the same shall be referred to the Head of the Institutions of the parties. In the interest of both the Institutions, all possible efforts may be made mutually to avoid legal hassles. Arbitrator shall be appointed by mutual consent of both the parties in case dispute is not amicably resolved.

- o. **Amendments to the MoU.** No amendment or modification of this agreement shall be valid unless the same is made in writing by all parties or their authorized representatives and specifically stating the same to be amendment to the MoU. The modification / changes shall be effective from the date on which they are made / executed, unless otherwise agree to.

P: SEAL OF THE PARTIES

In witness whereof, the **PARTIES** represented by their authorized representatives, set forth their hands on this the day, month and year first stated above, agreed and accepted this **MoU** to be signed in the presence of the following witnesses:

IN WITNESS WHEREOF, each of the parties has caused this agreement to be executed by its duly authorized authorities as of date first written above.

<p>For and on Behalf of, Guru Nanak Dev University, Amritsar</p>	<p>For and on Behalf of Punjab Remote Sensing Centre, Ludhiana</p>
<p>Registrar  Signature: Registrar, Guru Nanak Dev University, Amritsar. Date: 3/5/2018 Seal</p>	<p>Director, Punjab Remote Sensing Centre, Ludhiana  Signature: Date: 03/05/2018 Seal: Punjab Remote Sensing Centre, PAU Campus, Ludhiana 141 111</p>
<p>Witnesses (Name & Signature): 1.  2. Aninath  3/5/18</p>	<p>Witnesses (Name & Signature): 1. Minakshi  03/05/2018 2. Rseth  03/05/18</p>