AgriHub: Innovation hub for Agriculture

Call for project proposals from Startups for innovation in Agriculture

The 'AgriHub' is a transdisciplinary, multi-institutional collaborative Centre of Excellence (CoE) that brings stakeholders together to reduce the time taken to innovate, develop and deploy technologies for the benefit of breeders, researchers and farmers with an aim to provide advanced technologies such as high-performance computing and big data analytics for designing crops and implementing AI/ML platforms. AgriHub invites proposals in thrust areas as outlined below with focus on innovation & indigenous technology development leading to benefit of farmers and associate eco-systems. The thrust areas of AgriHub include but are not limited to

- **Genomic-based crop improvement**
  - This area involves using genomics to identify genes and traits that can help crops become more productive and resilient to environmental stressors. This includes identifying markers for disease resistance, drought tolerance, and nutrient use efficiency**.**
  - Genomic visualization and assembly tool for clustering of SNP for different crops.
  - Genome Wide Association Studies tool for special traits.
  - An advanced tool for molecular breeding for various crops.
- **Phenomics-based crop improvement**
  - Study plant traits, including growth patterns, root architecture, and physiological responses to different environmental conditions.
  - Technologies to identify the most promising crop varieties for specific environments and conditions.
  - Crop Yield Prediction.
- **Data repository and analysis**
  - This area involves the development of cloud-based repositories for genomics and phenomics data, along with tools for data analysis and visualization. This includes facilitating the discovery of new patterns and correlations in crop data.
- **Automated platforms for sequencing and data analysis**
  - Use of high-throughput sequencing and automated data analysis platforms to accelerate the pace of crop improvement.
- **Precision agriculture, Agriculture Engineering and related technologies**
  - Soil Mapping: Mapping soil attributes such as moisture content, organic matter, and pH levels to make better irrigation schedules, decisions around inputs and management practices.
  - Crop Monitoring: Using sensors and remote sensing technology to monitor plant growth, detect early signs of stress, groundwater management system for crop cycle management and optimize irrigation and nutrient management.
  - Yield Mapping: Mapping yield variability within fields to identify areas of high and low performance and to optimize inputs for better yields.
- **AI-based disease and pest diagnosis**
  - Automated Diagnosis: Developing AI algorithms to detect and diagnose crop diseases and pests from images or other data sources.
  - Disease Prediction: Using machine learning to analyze historical data and environmental factors to predict disease outbreaks and pest infestations.
  - Decision Support: Providing farmers with real-time recommendations based on AI analysis, including pest control strategies and crop protection measures.
- **Drone application and image Analysis**
  - Aerial Imaging: Using drones to capture high-resolution images of crops and fields, which can be analyzed for plant health, yield prediction, and crop mapping.
  - Crop Spraying: Developing drone-based crop spraying technology to precisely apply inputs such as pesticides and fertilizers, reducing waste and improving efficiency.
  - Field Inspection: Using drones for rapid field inspections, such as counting plants, measuring growth rates, and detecting anomalies.
  - Smart Agri Robots for various applications.
- **AI-powered demand and supply forecast**
  - Market Analysis: Using AI to analyze market trends and demand patterns to help farmers make informed decisions around crop selection and production.
  - Weather Forecasting: Analyzing weather patterns and data to predict market demand and optimize planting schedules.
  - Supply Chain Optimization: Using AI to optimize supply chain logistics and distribution, reducing and reusing

agriculture waste, and improving efficiency.

Who can apply:

- The startups are also encouraged to apply in partnership with researcher's/Scientists/ Engineers/ Technologists and faculty members (In case of difficulty you contact PI AgriHub to connect with experts in respective fields).
- The proposals may be submitted by a startup or in a consortium model, with defined milestones/ timelines and roles of individual institutions.

Nature & Duration of Support:

1. The scheme provides support to a startup in India.
2. The startup can apply for projects under following category:

   Deep AgriTech Innovation (Max 12 months) (up to 5.0 Lacs)
   This type of project focuses on developing products or technologies with TRL 6 to TRL 9 to meet the immediate needs of the startups/industries. Principal Investigators prepared to advance their laboratory-developed products to the commercialization stage are encouraged to apply in this category. It is essential to have an industry partner involved in the project, who has a vested interest in the proposed product or technology.

   In all the above-mentioned categories, financial support in addition to support in kind from the industry is encouraged. For details regarding TRL levels can be found from following link.
   TRL Details

3. PIs are requested to restrict the total budget of their proposed project based on project category and emphasize commitment and justification of deliverables related to AgriHub. The research grant may include support for equipment (not more than 30% of project cost), manpower, consumables, travel, contingency, overhead (8% of project cost excluding non-recurring cost) etc. Equipment should not consist of a Laptop. The grant will be released in phases based on periodic review.
4. On approval of project, all PIs to take membership of AgriHub by paying a membership fee as per the rules.
5. All the parties (i.e. Ministry of Electronics & Information Technology, Indian Institute of Technology (IIT) Indore, Centre for Development of Advanced Computing (C-DAC) Pune, ICAR-Indian Institute of Soybean Research, Indore, and ICAR-Central Institute of Agriculture Engineering, Bhopal) including inventors will share the IPR. No other Party/Parties shall have any claim on background IPRs of other Parties.

What is required information in the proposal: Well defined introduction, motivation, objectives, methodology, outcome and quantifiable deliverables with specific time frame. The proposal should be supported by a user agency/Industry in kind or with fund support. Proposal format may be obtained from the following link:
Proposal format

What is the Criterion for selection of a proposal:

i. New technology development leading to prototypes/ products aligned with the above thrust areas.
ii. Delivery (for pilot scale demonstration, field trial/deployment & commercialization) as per the milestones within timeframe.
iii. The proposal should target the development of a higher Technology readiness level (TRL) level from the existing TRL level as per the category of project.
iv. Proposals with academic partners involved in the project will be given weightage/ preference.

Process of Selection of proposal: An Expert Group/ Implementation Committee of AgriHub would consider the proposals for feasibility and carry out technical and financial evaluation and accordingly recommend for financial support. Appraised projects are processed further based on the recommendations and the priority areas mentioned above.

Link for submission of proposal: (Google form link), may be used for the submission of proposal by the **31st March 2026 (by 23:59)**. Only the shortlisted candidates will be notified.

In case of any query related to the above project, kindly email to **Prof. Aruna Tiwari** at pi_agrihub@iiti.ac.in.