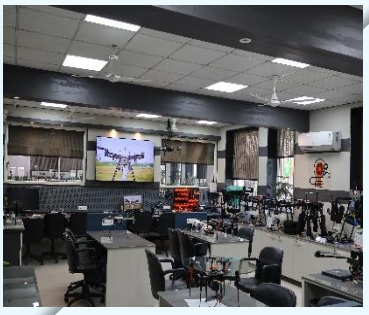
ICAR-IARI
INDUSTRY MEET



Strengthening Partnerships in Natural Resource Management Sector

DATE
23 April 2026
09:00 AM - 5:30 PM

VENUE
Dr. B.P. Pal Auditorium, ICAR-IARI
NEW DELHI

भाकृअनुप
ICAR

Organised by
ICAR-Indian Agricultural Research Institute, New Delhi - 110012

In the context of declining soil and environmental health and depleting water resources, Public Private partnership in strengthening NRM research, education, extension and policy is gaining significance.

Objective

The brainstorming seeks to convene interaction among experts, policymakers, researchers, students and industry leaders for collectively exploring the following objectives:

Industry Needs of Research, Education & Extension

CSR Funding Opportunities with Industry

Placement Opportunities for IARI Students with Industry

Background

ICAR-Indian Agricultural Research Institute (IARI), popularly known as the "Seat of the Green Revolution," is India's premier institute for agricultural research, education, extension and innovation. The Institute envisions providing leadership for science-led, sustainable, and globally competitive agriculture to ensure food, nutrition, and livelihood security. Research programmes at IARI are carried out in a school-wise mode, covering natural resource management, crop improvement, horticultural science, plant protection, basic sciences and social sciences.

IARI has two off-campuses located at **IARI-Jharkhand** and **IARI-Assam**, in addition to **eight regional stations, two off-season nurseries**, and **one Krishi Vigyan Kendra (KVK)**. The Institute is a national leader in agricultural education, with approximately 313 UG, 296 PG and 1385 PhD students currently pursuing their studies at IARI.

IARI-Industry partnerships are critical enablers for translating cutting-edge research in natural resource management disciplines i.e. Agronomy, Agricultural Engineering, Agricultural Physics, Agricultural Knowledge management, Environmental Sciences, Microbiology, Soil Science and Agricultural Chemistry and Water Science and Technology Management into scalable, commercially viable, and impact- oriented technologies. With a strong foundation in both fundamental and applied agricultural research, IARI generates a continuous pipeline of innovations, including water and nutrient use efficient practices, climate resilient precision resource management and advanced farm machinery, integrated farming system, soil health, conservation agriculture, waste to wealth and bio-circular economy. Effective large- scale deployment of these innovations requires active collaboration with industry partners, who contribute expertise in resource management, product development, manufacturing, quality assurance, regulatory compliance, marketing, and distribution.

Overall, IARI-Industry partnerships play a vital role in transforming agricultural research into market-ready technologies. These collaborations accelerate innovation, strengthen infrastructure and funding, enhance technology commercialization and employability, and support sustainable agriculture, food and nutritional security, and national competitiveness.

School of Natural Resource Management

Water Technology Centre

Water Technology Centre (WTC) is Project Directorate in ICAR-IARI which is an inter-disciplinary facility for research, teaching, training and extension in agricultural water management. It was established in 1969 with the technical collaboration of University of California, Davis and partial financial support from the Ford Foundation (USA). This Centre conducts research on agricultural water management and provides technological and policy solutions on water conservation and harvesting in rainfed areas, enhancing water use efficiency in irrigated regions and safe use of treated wastewater. It has developed several bankable water management technologies such as jalopchar wastewater treatment, automated surface irrigation system, sub-surface drip fertigation, integrated drip cum mulch method, composite drought index, precision irrigation scheduling of field, fruit, vegetable and flower crops. Presently, 19 Ph.D and 8 M.Sc students are enrolled in the discipline of Water Science Technology and Management.

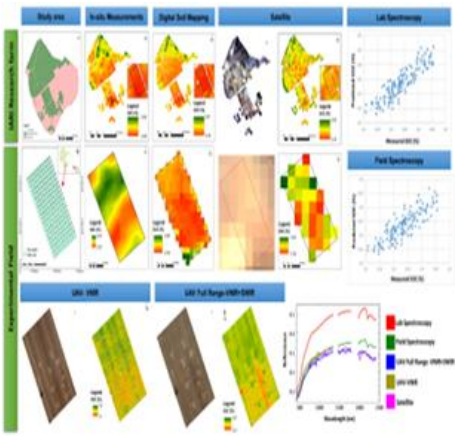
Division of Agronomy

The Division of Agronomy ICAR-IARI played a crucial role in India's Green Revolution during the 1960s–1970s. This Division conducted multi-location field trials on crop response to optimized sowing depth, irrigation timing, fertilizer application and crop management. This Division developed several bankable technologies like neem coated urea, line sowing and resource-efficient practices helped transform India towards self- sufficiency. Presently, the scientists of this Division are conducting research on Integrated Farming Systems (IFS), sustainable intensification, conservation agriculture, precision resource management and climate-resilient crop diversification. These technologies have significantly enhanced productivity, profitability, resilience and environmental sustainability, while providing national leadership in agronomic innovation and farmer-oriented production systems. Presently, 46 Ph.D and 25 M.Sc students are enrolled in this Division.

Division of Agricultural Engineering

The Division of Agricultural Engineering, ICAR-IARI is a leading center of excellence in farm mechanization and advanced agricultural engineering innovations since 1945. This Division undertakes cutting-edge research in Robotics and Artificial Intelligence, precision agriculture, smart sensing systems, automation, UAV-based applications, soil and water engineering, and protected cultivation. It also plays a pivotal role in post-harvest engineering and food processing, focusing on value addition, scientific storage, drying technologies, and quality enhancement systems. A riding-type multi-utility mini prime mover enables efficient small-farm mechanization by performing multiple operations with a single power source. Innovations such as a Robotic Pesticide Applicator, Variable Swathe Herbicide Applicator (VarSHA), Precision Pneumatic Planter, Aqua Ferti. Seed Drill, Pusa Farm Sun Fridge, Pusa Nitrogen Prescription Device, and Acoustic based Gadget for Maturity Detection in Melons support smart, efficient farming. Presently, 67 Ph.D and 21 M.Tech students are enrolled at this Division.

Division of Agricultural Physics



The Division of Agricultural Physics, ICAR-IARI advances the management of soil, water, energy, and crops using physics-based approaches, modern sensing technologies, data analytics, and artificial intelligence. Its research spans remote sensing, UAV and satellite-based crop and soil monitoring, monitoring of crop residue burning, soil moisture dynamics, micrometeorology, precision agriculture, and resource-use efficiency, supported by the development of sensors, simulation models, and AI-enabled decision-support systems. It contributes to climate-smart agriculture through improved irrigation scheduling, input optimization, yield forecasting, weather-based agro-advisories and integration with crop insurance frameworks. The Division currently mentors 25 Ph.D and 11 M.Sc students.

Division of Environmental Sciences

TThe Division of Environmental Sciences is a pioneer in developing climate-resilient green agriculture and environmental sustainability solutions and provides advisory and policy inputs. The Division has developed Crop Simulation Models-based decision support systems and AI/ML/Remote Sensing-based tools for crop management optimization, yield gap reduction, yield forecasting, carbon management, quantification of climate change impacts and adaptation gains, climatic risk assessment under climate scenarios, impact hotspots, and management. The Division has identified several low-carbon technologies suitable for carbon credit gains: GHG emission quantification; adaptation and mitigation from agricultural fields; technologies for ecosystem services, waste valorization, heavy metals management, biofuels, and fermented organic manure; and novel nano-fertilizer products. The Division currently mentors 36 Ph.D and 11 M.Sc students,

Division of Microbiology

The Division of Microbiology, ICAR-IARI established as an independent unit in 1961, has since emerged as a national leader in agricultural microbiology, pioneering India's first *Rhizobium* inoculant production. The Division focuses on prospecting beneficial and commensal microorganisms, as well as agri-and horti biomass decomposition and its valorization in agriculture. Significant achievements include distribution of high-quality liquid and carrier-based microbial inoculants - single nutrient, multifunctional consortia, Mycorrhiza, Pusa Decomposer and futuristic metabolite-based and Synthetic communities (SynComs. The Division also houses a germplasm collection at the Centre for Conservation and Utilization of Blue Green Algae – CCUBGA. The Division currently mentors 30 Ph.D and 8 M.Sc students..

Division of Soil Science and Agricultural Chemistry

The Division of Soil Science and Agricultural Chemistry, ICAR-IARI fundamental and applied research on the physical, chemical, and biological properties of soils, fertilizers and manures and their interactions with soil and plants, soil mapping and soil fertility improvement for sustained optimal crop production, utilization of organic residues as manure and soil test-crop response correlation. This Division has developed Pusa Soil Test and Fertilizer Recommendation (STFR) Meter which is a programmable, portable, low-cost, digital-equipment that brings soil testing at farmers' doorstep. It is capable of determining fourteen soil parameters i.e., soil pH, electrical conductivity, organic carbon, available nutrients [nitrogen (derived), phosphorus, potassium, sulphur, zinc, boron, iron, manganese and copper], lime and gypsum requirement. Till date, this technology has been licensed to 21 firms. The Division currently mentors 74 Ph.D and 17 M.Sc students.

Agricultural Knowledge Management Unit

The Agricultural Knowledge Management Unit (AKMU), ICAR-IARI) plays a pivotal role in managing, preserving, and disseminating agricultural knowledge and scientific information of the Institute and development of digital technologies. The primary mandate of AKMU is to develop prediction and classification models for agricultural applications using statistical techniques, non-linear approaches, artificial intelligence-based methods, convolutional neural networks, etc. Krishikosh a digital repository (https://krishikosh.egranth.ac.in/) of the NARES system hosted at ICAR-IARI preserves and provids access to agricultural knowledge including theses, old books, institutional publications, technical bulletins, project reports, etc. Currently this digital repository has more than 3,25,000 items which includes 215,000 theses.

Invited Industries

- ✓ Fertilizers including Biofertilizers
- ✓ Irrigation / Fertigation
- ✓ Eco-friendly Agro-Products
- ✓ Green / Carbon Credits
- ✓ Weather and Agro-Advisory
- ✓ Digital / Precision Agriculture
- ✓ Farm Mechanization
- ✓ Drone Technology

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CONTACT US

Dr. Ch. Srinivasa Rao
Director
ICAR-Indian Agricultural Research Institute, New Delhi 110 012
director@iari.res.in 011-25843375 | 011-25842367

CONVENOR
Dr. P.S. Brahmanand
Project Director, WTC
School Coordinator (Natural Resource Management)

CHIEF PATRON
Dr. Ch. Srinivasa Rao
Director

PATRON
Dr. Anupama Singh
Joint Director (Education) & Dean

Dr. C. Viswanathan
Joint Director (Research)

Dr. R.N. Padaria
Joint Director (Extension)

CO-CONVENORS
Dr. Radha Prasanna
Head, Microbiology
Dr. Soora Naresh Kumar
Head, Environmental Sciences
Dr. Subash N. Pillai
Head, Agricultural Physics
Dr. P.K. Sahoo
Head, Agricultural Engineering
Dr. S.S. Rathore
Head, Agronomy
Dr. Debashis Mandal
Head, SSAC
Dr. Amrender Kumar
In-charge, AKMU

ORGANISING SECRETARIES

Dr. Khajanchi Lal, Principal Scientist (WTC)
Dr. Livleen Shukla, Principal Scientist (Microbiology)
Dr. Rajiv Kumar Singh, Principal Scientist (Agronomy)
Dr. M.C. Meena, Principal Scientist (SSAC)
Dr. Akriti Sharma, Sr. Scientist & In-charge, ZTM BPD Unit
Dr. Satish D. Lande, Senior Scientist (Agril. Eng.)
Dr. Rajkumar Dhakar, Senior Scientist (Agril. Physics)
Dr. Sandeep Kumar, Scientist (Env. Sciences)

For participation confirmation:
Please contact - Mobile: 9776207101 | 7042412069 | 9909117983
Email: pd_wtc@iari.res.in / psba12345@gmail.com