Knowledge Sharing and Proposal Guidance Session

AI-driven Accelerated Crop Breeding: State-of-the-Art Insights and Funding Opportunities under the ANRF MAHA AI-SE Challenge

Organized by : *PMU for Agriculture and Livestock Innovations at Venture Center*
Supported by: *Anusandhan National Research Foundation, Gates Foundation, Venture Center*

POTENTIAL GAINS	• Understand the Anusandhan National Research Foundation (ANRF) MAHA AI-SE Call-2 and Challenge-12 on AI-driven solutions for Accelerated Crop Breeding. • Explore state-of-the-art crop breeding technologies, emerging approaches and opportunities for crop improvement. • Understand how AI can accelerate crop breeding across the breeding pipeline and enable smarter breeding decisions. • Gain expert perspectives on crop breeding challenges, research opportunities and translational potential. • Gain practical proposal-writing tips and clarify eligibility, proposal requirements and the application process. • Interact with speakers through advance question submission and live Q&A.
FOR WHOM	• Crop scientists and plant breeders • Agricultural researchers and faculty from ICAR institutes, SAUs and other research organizations • AI/ML, data science, computational biology and genomics professionals • AgriTech startups, technology developers and industry professionals
WHEN	3rd December 2026 (Thursday) at 3:00 PM IST
WHERE	Online via Zoom (Meeting link will be shared with the registered participants prior to the event.)
CONTACT PERSON	Manish Gore Email: manish.gore@venturecenter.co.in Contact Number: +91-7410045657 Pradnya Aradhye Email: pradnya@venturecenter.co.in Contact Number: +91-8805009010
REGISTRATION	• Event is free but the registration is mandatory. • Register online at: https://forms.gle/w6RZauJN4tzxCywW9 • Organizers reserve the right to select participants so as to maximize learning and networking opportunities for the group.

INTRODUCTION

India has established a strong foundation for data-driven crop breeding through next-generation breeding, genotyping, digitalization and mission-mode crop improvement programs. Advances in AI/ML, genomic selection, phenomics, remote sensing and digital agriculture now create an opportunity to convert existing and emerging breeding datasets into practical decision support - improving selection accuracy, shortening breeding cycles and strengthening genetic gain, particularly in pulses and oilseeds.

Challenge-12 under Call-2 of the ANRF MAHA Mission - Artificial Intelligence for Science & Engineering (AI-SE) seeks AI-enabled breeding and decision-support systems for priority pulse and oilseed crops, using genomic, phenotypic, pedigree, multi-environment, environmental and agronomic data. The challenge emphasizes prospective validation, integration into breeding workflows, explainable recommendations and practical deployment within institutional breeding programs.

This session will introduce the ANRF MAHA AI-SE program and Challenge-12, present a state-of-the-art overview of AI-driven crop breeding, and explore technological opportunities and research gaps. It will also feature expert insights on emerging technologies and challenges in crop breeding, provide guidance on developing a strong proposal, and offer participants an opportunity to clarify their queries through interactive discussion and Q&A.

SCHEDULE

Time	Session title	Lead
3:00 to 3:10 PM	Welcome and Introduction to Organizers	Manish Gore
3:10 to 3:20 PM	About the ANRF MAHA AISE Program	Meghana Bhandari
3:20 to 3:30 PM	About the Challenge-12 in Call-2 of ANRF MAHA AI-SE Program	Manish Gore
3:30 to 4:00 PM	**Talk with Expert Commentary:** An overview of AI-driven Solutions for Accelerated Crop Breeding	**Talk:** Manish Gore, PhD **Expert Commentary:** Vidya Gupta, PhD
4:00 to 4:10 PM	Tips and Pointers for creating a strong proposal for ANRF MAHA AI-SE Call 2	Meghana Bhandari
4:10 to 4:20 PM	Discussion on Questions asked in Registration Form about the scheme/challenge	Meghana Bhandari & ANRF MAHA AI-SE Team (TBC)
4:20 to 4:30 PM	Open Q&A session	Speakers / Program representatives

Speakers/Session Contributors (in alphabetical order of last name)	
 **Meghana Bhandari** ***Program Speaker*** Lead - Project Management Unit, Venture Center	• Biomedical engineer with an M.Tech. in Biomedical Engineering from IIT Ropar, with research experience in intranasal drug delivery for Alzheimer's disease. • Leads the Project Management Unit (PMU) at Venture Center, supporting national mission-mode initiatives, including the ANRF AI for Science & Engineering Mission and Maha MedTech Mission. • Experienced in program management, stakeholder coordination, implementation of innovation initiatives, and engagement with funding agencies, research organizations and ecosystem partners. • Has contributed to initiatives including UNIDO–BEE–GEF's Facility for Low Carbon Technology Deployment (FLCTD) and BIRAC's Regional Bioinnovation Center (BRBC), and has experience mentoring early-stage healthcare, biotech and biomedical startups. • LinkedIn: https://www.linkedin.com/in/meghana-bhandari-97834a188/
 **Manish Gore**, PhD ***Technical Speaker*** Associate Manager – Incubation and Regulatory Services, Venture Center	• Leads Bioincubation activities at Venture Center, with a focus on startup incubation, in-house mentoring, incubator operations and ecosystem development. • Contributes to accelerator programs, startup development initiatives, innovation programs, events and ecosystem-building activities. • Brings over 8 years of combined academic and industry experience in cell biology, bioengineering and pharmaceutical biotechnology, with experience in R&D, technology development and techno-commercial strategy. • Holds a Ph.D. in Bioprocess Technology from the Institute of Chemical Technology, Mumbai, with experience in R&D, technology development and advanced 3D cell culture platforms. • LinkedIn: https://www.linkedin.com/in/manish-gore-ph-d-14034339/
 **Vidya Gupta**, PhD ***Expert Commentator*** CSIR Emeritus Scientist Former Chief Scientist and Chair, CSIR-NCL, Pune	• CSIR Emeritus Scientist; Former Chief Scientist and Chair, CSIR-NCL, Pune; Fellow, National Academy of Agricultural Sciences (NAAS) • Distinguished plant scientist with over 40 years of contributions to plant biochemistry and molecular biology. • Research expertise spans metabolomics, molecular marker-assisted analysis of agro-economic traits, genetic diversity, plant–pest/pathogen interactions and genome organization. • Postdoctoral research experience at Texas A&M University, USA. • Author of 223 research publications, with 9 granted patents and 37 Ph.D. scholars guided. • Currently serves as Research Adviser at ICTRC, Pune, and is involved in various initiatives and activities of CSIR, ICAR, DST and DBT • Google Scholar Link: https://scholar.google.com/citations?user=OxgjLaUAAAAJ&hl=en • LinkedIn: https://www.linkedin.com/in/vidya-gupta-0977399/
ANRF MAHA AI-SE Team	TBC

Organizing team (in alphabetical order of last name)	
 **Pradnya Aradhye,** RTTP Innovation Management at Venture Center	• Registered Technology Transfer Professional (RTTP) at TechEx.in, Venture Center, leading technology commercialization through industry partnerships, technology marketing, and deal structuring. • Technology transfer and innovation professional with experience in bioincubation, startup mentoring, grant facilitation, and commercialization of medical device and diagnostic innovations. • Project Manager for the UNIDO initiative to strengthen Technology Transfer Offices in India. Holds an M.Tech. in Biological Sciences and Bioengineering from IIT Kanpur. • LinkedIn: https://www.linkedin.com/in/pradnya-aradhye/
 **Premnath Venugopalan** PhD, RTTP, FSTEM Director, Venture Center Head, NCL innovations	• Director, Venture Center; Head, NCL Innovations, CSIR-NCL; and Scientist at CSIR-NCL, with expertise in technology commercialization, innovation management, IP, and science-based entrepreneurship. • Founder of Venture Center, which has grown into India's leading science-based incubator and has received multiple national and international awards. • Contributor to India's innovation policy and leader of award-winning technology commercialization initiatives at CSIR-NCL. • IIT Bombay Distinguished Alumnus and MIT Ph.D., with extensive experience in technology development, commercialization, startup creation, and industry • Linkedin: https://in.linkedin.com/in/premnathv

Organized by:	
AGRO & LIVESTOCK INNOVATIONS @ Venture Center	**PMU on Agriculture and Livestock Innovations** The Gates Foundation (GF) and the Anusandhan National Research Foundation (ANRF) are collaborating to advance agriculture and livestock research and innovation in India through the ANRF–Gates Grand Challenges program, spanning three priority areas: (A) Next-Generation Crop and Livestock Improvement Platforms, (B) AI, Open Data Exchange, and Precision Farming, and (C) Agriculture for Health. Venture Center has been shortlisted to establish and operate the Program Management Unit (PMU) for the ANRF–Gates Grand Challenges, and is now preparing to launch challenges in the mentioned thematic areas under the program.

The PMU on Agriculture and Livestock Innovation is associated with:	
	The Gates Foundation is a philanthropic organization that works to dramatically reduce disease and poverty and build a more equal world. They invest their expertise and resources in organizations, research institutions, and global alliances that are fueling progress toward a future that is free of infectious diseases, provides economic opportunity for all, and ensures the health of mothers and babies. The charitable support, which in 2024 totaled more than US$8 billion, focuses on innovative products, ideas, and approaches that have the potential to save and improve the greatest number of lives. The efforts span more than four dozen program areas and engage thousands of partners that are leading the work on the ground—including nonprofit organizations, government agencies, private enterprises, scientists, community groups, and policy researchers. Link: https://www.gatesfoundation.org/
	Anusandhan National Research Foundation (ANRF) - established through an Act of Parliament: ANRF Act, 2023, to provide high-level strategic directions for research, innovation, and entrepreneurship in the fields of natural sciences, including mathematical sciences, engineering and technology, environmental and earth sciences, health and agriculture, and scientific and technological interfaces of humanities and social sciences. Anusandhan National Research Foundation (ANRF) has been established to promote research and development and foster a culture of research and innovation throughout India's Universities, Colleges, Research Institutions, and R&D laboratories. ANRF acts as an apex body to provide high-level strategic direction of scientific research in the country as per recommendations of the National Education Policy. ANRF forges collaborations among the industry, academia, research institutions and government departments. Link: https://anrfonline.in/ANRF/HomePage
	Venture Center is a national award winning deep tech and science-based business incubator approved by the Ministry of Science and Technology, Govt of India. It aims to nucleate and nurture knowledge based enterprises. It does this by creating and maintaining a rich and supportive ecosystem for inventive enterprises that includes a large mentor network, funding options including 4 seed funds, scientific/ analytical/ prototyping facilities, specialized advisory capabilities, numerous events etc. It empowers scientists, engineers, clinicians and other knowledge workers to take their ideas from lab to market. It is structured as an independent, non-profit company and charitable organization that is hosted by CSIR-National Chemical Laboratory, Pune. The Venture Center was founded in 2007. Venture Center has been recognized with the National Award for Technology Business Incubators (2015), AABI (Asian) Incubator of the Year Award (2018), National Entrepreneurship Award under Ecosystem Builder Category (2019), Biospectrum No 1 Bioincubator of India (2022) and National Award for Incubators for Nurturing IP (2021 & 2022). For more information, visit: http://www.venturecenter.co.in/