

“Industry- Academia Interface Meeting 2023” organized by ICAR-IVRI, Bengaluru campus on occasion of Nationwide celebrations of “Azadi Ka Amrut Mahotsav” on 1st September, 2023

ICAR-Indian Veterinary Research Institute, Izatnagar-243122 Bareilly, India

The ICAR-Indian Veterinary Research Institute, Izatnagar has initiated Interface meeting series with the various State Departments of Animal Husbandry (SDAH) of the country to celebrate the 'Azadi ka Amrit Mahotsav' an initiative of the central government to celebrate and commemorate 75 years of India's independence on the topic “Advances in Animal Health and Production”



The second meeting under the continuing Industry-Academia Interface Series was organized on 1st September, 2023 at IVRI Bengaluru Campus with the participation of 12 Industry representatives and more than 170 participants in hybrid mode. The meeting was conducted with objective to bridge the gap between industry and university researchers to facilitate faster development & dissemination of technologies from lab to end user.



The inaugural session was chaired by Dr. Triveni Dutt, Hon’ble Director, ICAR- IVRI. Dr. Pallab Chaudhuri, Joint Director, IVRI Bengaluru, and Dr. Rupasi Tiwari, Joint Director (EE), ICAR-IVRI co-chaired the interface meeting. Dr. Pronab Dhar, Head, Biological Standardization,

IVRI participated as internal expert. Dr. P. Patnaik (Indian Immunologicals), Shri Rajiv Gandhi (Hester Biosciences), Dr. Sreenivasalu Kilari (Biovet), Shri Chandrashekhar VVV (Sanvita Biotechnology), Dr. Kakoli Ahmed (Brilliant BioPharma), Dr. D K Dey (Immeureka), Dr B. Prakash (Ventri Biologicals), Dr. Krishnappa (Advinus/Eurofins), Dr. Dharendra Kumar (Vesper Vet), Dr. Vinay Surve (Virbac) attended the meeting in person. Representatives from Intas, MSD-Health and others attended online. Dr. S.K. Mendiratta, Joint Director (Academic), Dr. S.K. Singh, Joint Director (Research), Dr. K.P. Singh, Joint Director (CADRAD) and Heads of Divisions of IVRI, Scientists and Students participated in this event in online mode.



Dr. Pallab Chaudhuri, JD, ICAR-IVRI Bengaluru, formally welcomed all the dignitaries and guests.

Joint Director (EE), IVRI Dr. (Mrs.) Rupasi Tiwari, presented the bird's eye view of activities of IVRI and descriptive analysis of responses of industry and research faculty and students, based on inputs provided by participants during registration. She highlighted that all the participating industries expressed their keen interest in technologies developed by IVRI, especially Hester Bioscience for VLP based IBD vaccine, poultry vaccine, Vesper pharma for reproduction technologies, Intas pharma for IBD vaccine, Ventri biologicals for IBDV, Indovax for poultry vaccines, Ajay Biotech for Animal health and nutrition, and Brilliant Biopharma for Goat pox vaccine. The industry like Virbac Animal Health, Hester Bioscience, Sanvita Biotechnologies Private Limited, Indian Immunologicals Limited, Ajay Biotech, and Biovet have expressed to work with IVRI in PPP mode. Further, some industry partners indicated possible areas of collaboration, such as Hester Biosciences (Recombinant R2B vaccine), Vesper Pharma (Prebiotic and probiotic in poultry), Indian Immunologicals (haemoprotozoan diseases) and Brilliant Biopharma (Component FMD vaccine). All the industries have expressed interest to spend their CSR funds in collaborative research, strengthening of teaching, laboratory infrastructure and community outreach programmes. Hester Bioscience, Intas and Biovet shown willingness to offer fellowship to students. Apart from this, Sanvita Biotechnologies and Indian Immunologicals have

shown interest in funding the Industry chair at IVRI. Majority of industries were enthusiastic about initiating campus placement drive for IVRI students.

Dr Triveni Dutt, Director, IVRI apprised about the notable contribution of IVRI in eradication of several diseases, managing the animal health and production. IVRI has developed, registered and characterized various elite germplasm having high production potential such as landly pig, Vrindavani cattle etc. The IP portfolio of IVRI includes 32 patents out of which 17 has already been commercialized. The IVRI played crucial role by jointly developing the LSD vaccine (Lumpy ProVac) with NRC Equine, Hisar within shortest time to counter the severe outbreak of LSD in country. Besides, gene marker FMD vaccine, a new addition is soon going to rolled out. Further, IVRI has also developed an alternate lab animal model (Guinea pigs) for testing the FMD vaccine. Further, a thermostable FMD vaccine will also be available for use shortly. Considering the expectations of government of India and other stakeholder, ICAR-IVRI has taken several key steps starting from revision of the mandate, implementation of National Education Policy wherein more than 90 diploma and certificate courses, post graduate courses such as MSc biotechnology etc has been started. The ICAR-IVRI is striving towards transforming IVRI Deemed University to Institute of global repute. The IVRI is sincerely putting effort for strengthening the R&D infrastructure. He invited industry to participate in ongoing research activity in the form of contract research, collaboration and PPP mode. Further, he urged industry to mobilize the CSR fund for teaching and research infrastructure development as per guideline of ICAR. IVRI is producing students with high level of expertise which could be useful for industry also. He invited industry to open the door for students for having industry exposure *vis a vis* providing job opportunities for mutual benefit to IVRI and industry. He further urged industry for suggesting names the Professor of practice and nominate the nodal officer for rapid dialogue with industry by IVRI. He expressed his gratitude to all the industry representatives and expected that this platform will be an ice-breaking step.



The technical session was chaired by Dr. P. Dhar, Head, Biological Standardization and coordinated by Dr. Akhilesh Kumar, Dr. Basavaraj Sajjnar and Dr. Saladdin Qureshi. Dr. K.N. Viswas, Dr. Suresh B and Dr. M.A. Ramakrishna acted as rapporteurs.

In the technical session, the details of IP portfolio of the IVRI was presented by Dr. Anuj Chauhan, I/C ITMU including the newly developed vaccines such as Lumpi-Pro-Vac, IBD vaccine, duck plague vaccine etc., and diagnostics such as blocking ELISA for FMD, competitive ELISA for PPR, Blue tongue sandwich ELISA, JE IgG & IgM ELISA, Multiplex PCR for MTBC, etc. as well as therapeutics (Herbal Acaricide, Masticure, Fertilure, MSC CM based formulation etc).

Dr. P. Patnaik of Indian Immunologicals presented his company portfolio and suggested that cost of ingredients, scaling up etc should also be seen while fixing the price of any technology. R&D collaboration on thermostable vaccine, Theileria vaccine, novel adjuvants, field deployable diagnostics for canine. Pilot plant at IVRI will help in assessing linearity and scalability of technologies for easy adoption.

Shri Rajiv Gandhi of Hester acknowledged that IVRI is their largest technology partner. He highlighted that such an interface platform is needed for both Industry & researchers. He offered to provide fellowship, placement, exposure training to students and CSR fund for community development programs.

Dr. Sreenivasulu Kilari of Biovet presented his company portfolio and informed that under CSR responsibility Ella foundation supports PG scholars and would fund research projects on One Health in the area of emerging infectious disease in India or abroad. He also expressed interest in recruiting young researchers of IVRI.

Dr. Kakoli Ahmed of Brilliant Biopharma expressed willingness for close association with IVRI in R&D and provide CSR fund for teaching, research & community development activities.

Dr. Brajesh Singh of MSD, Animal Health offered to provide fellowship for students & CSR funds.

Dr. B.P. Sreenivasa, Principal Scientist, ICAR-IVRI, Bengaluru presented ongoing research activities of the campus and state-of-art facility available at ICAR-IVRI, Bengaluru and highlighted the ways to bridge the gap between Academia and industry.

The panel discussion session was Chaired by Dr. Rupasi Tiwari, Joint Director (EE), co-chaired by Dr. Bablu Kumar. It was coordinated by Dr. K. Narayanan and Dr. Chandra Mohan. Dr. K.N. Viswas, Dr Suresh B and Dr M.A. Ramakrishnan acted as rapporteurs.

Dr.K.P. Singh, Joint Director (CADRAD) has apprised the various facilities and activities at CADRAD. Dr. Patanaik of IIL suggested the incorporation of CDSO for regulatory clearance of developed products. He suggested that skills such as biostatistics, design and implementation of project, project management tools & techniques, and regulatory requirements can be included in course curriculum of student for making them industry ready. Further, establishment of pilot plant for demonstration of linearity and scalability of developed technology will increase the acceptability by industry. He further suggested that clause of exclusiveness for some years, may be considered for certain technologies so that industry can proactively involve in transfer of technology and its development. He also suggested that cost affordability from industry perspective must be considered. It was suggested that Industry help can be taken for deciding the pricing the technology. Dr. S.K. Singh, Joint Director (Research) welcomed the interest of industry in collaborative research and also stressed that the trust and transparency between Industry-Academic will help in bridging the gap.

Dr. S.K. Mendirrata, Joint Director (Academic) suggested that industry if provide placement to students in their initial phase of master degree program, will help them to do research based on industry need. He further welcomed the industry's willingness for fellowship to students and Professor of practice. Dr. Premanshu Dandpat volunteered that IVRI is willing to work on foot rot with industry as well as in Leptospira and tuberculosis. Dr. M.H. Khan, Head, Animal Reproduction urged industry collaboration in research area of semen extender, ETT, IVF and allied technologies. Dr. Sohini Dey, apprised about new generation vaccines and offered help to industry on various steps of technology dissemination. Dr. Mohini Saini, HD Biochemistry suggested industry tour for students. Dr. L.C. Chaudhary informed that Animal nutrition division has developed several technologies on nutritional care of animals and industry may join hand for adoption of these technologies. Dr. A. M. Pawde, suggested collaborative research areas such as dart for wildlife, wound management using herbal therapeutics etc. Dr. D. B. Mondal, HD, Medicine informed that his division has developed several herbal formulations where industry can come forward for adoption and future collaborative research. Dr. Arnab Sen, Station In-charge suggested the need for impact assessment of vaccination and isothermal genomic detection as a field level diagnostic. Dr. Bablu Kumar, PI of RKVY RAFTAR urged industry to collaborate with ABI at IVRI.

Dr. Nitin Bhatia of Intas Pharma suggested to put up the biodata of students in IVRI portal for industries to scrutinize before placement fare.

The Meeting ended with vote of thanks to Chair and dignitaries by Dr. V. Umaphathi, Principal Scientist, IVRI, Bengaluru.

