





## Invitation

Dear Colleagues,

We are pleased to announce that the Indian Society of Animal Genetics and Breeding (ISAGB) in collaboration with ICAR-Directorate of Poultry Research (ICAR-DPR), Hyderabad is organizing XVI Annual Convention of Indian Society of Animal Genetics and Breeding and National Conference on “**Innovations in Animal Genetics & Breeding for sustainable productivity of livestock and poultry**” at ICAR-DPR, Hyderabad during 2<sup>nd</sup> & 3<sup>rd</sup> December, 2022. The Annual Convention of ISAGB and proposed conference will be the ideal platform for eminent scientists, animal geneticists, animal breeders, policy makers as well as young researchers to share their achievements, knowledge, ideas and discuss appropriate breeding strategies and way forward for genetic improvement of native livestock and poultry genetic resources in the country.

India is the world's 8<sup>th</sup> most biodiverse region with a BioD score of 0.46 on diversity index comprising 1,02,718 species of fauna and 23.39% of the nation's geographical area under forest and tree cover. India encompasses a wide range of biomes: desert, high mountains, highlands, tropical and temperate forests, swamplands, plains, grasslands, areas surrounding rivers, as well as island archipelago. It hosts four biodiversity hotspots: the Himalayas, the Western Ghats, the Indo-Burma region and Sundaland (including the Andaman & Nicobar Islands). These hotspots have numerous endemic species. Nearly 5% of India's total area is formally classified under protected areas. India has become home to 7.6% of all mammalian, 12.6% of all avian, 6.2% of all reptilian, 4.4% of all amphibian, 11.7% of all fish, and 6.0% of all flowering plant species. At present, ICAR-NBAGR, Karnal has registered 202 indigenous breeds, which include 50 breeds of cattle, 19 of buffalo, 34 of goat, 44 of sheep, 7 of horses & ponies, 9 of camel, 10 of pig, 3 of donkey, 1 of yak, 19 of chicken, 2 of duck, 1 of geese and 3 breeds of dog. These breeds except dog have been well characterized and mostly are being reared for milk, meat, wool, egg, pack and draught purpose. India as an agriculture-based country needs immense contribution of these well recognized breeds/population of livestock and poultry to maintain and augment livelihood of rural and peri-urban farmers/animal keepers, who are mostly landless and marginal. But, production levels of these breeds are not up to the mark to mitigate the ever-increasing demands of human beings. However, to make these breeds more productive and economical, systematic innovative breeding and genetic strategies are to be pursued with utmost commitment and dedication. Though many breeding strategies are already in operation in many states, but integration of innovative technologies with the conventional approaches is very much essential for rapid and sustainable genetic gains in these indigenous breeds.

In this conference, we have proposed different technical sessions covering the broad areas of animal genetics and breeding, cutting edge research in advanced biotechnology, business potential in innovative breeding-based livestock and poultry farming, agripreneurship, use of artificial intelligence in animal farming etc. On this occasion, we hope that the best brains of the country in this and allied fields will be assembled at the conference and we all would be able to deliberate on many emerging issues of animal breeding and genetics for faster genetic improvement, thus, making the Indian livestock and poultry sector globally competitive, more economical, creating large employment opportunities and ultimately helping to attain the target of 5 Trillion Dollar Indian economy.

The information including registration details for this conference has been available at the Institute (<https://pdonpoult.org>) and ISAGB Society website (<http://www.isgab.org>). Scanned copy of the signed registration form may be sent to the Organizing Secretary through email ([isagbdpr2022@gmail.com](mailto:isagbdpr2022@gmail.com)). The registration fees may be sent to the Bank account of this Conference through online via UPI/NEFT/RTGS/IMPS or through credit card and the bank acknowledgement copy with respect to online receipt of registration fees may be sent through email ([isagbdpr2022@gmail.com](mailto:isagbdpr2022@gmail.com)) for recognizing the Senders of money.

Organizing Committee

XVI ISAGB CON 2022 & National Conference

## About Indian Society of Animal Genetics and Breeding (ISAGB)

The Indian Society of Animal Genetics and Breeding (ISAGB) is one of the oldest Societies of Animal Sciences that was registered under Societies Registration Act XXI of 1860 on 17<sup>th</sup> April 1984 with main aims and objectives of (i) Advancement of science and art of Animal Genetics and Breeding in all aspects by dissemination and application of knowledge gained from experiments and experience, (ii) Provision of opportunities for exchange of knowledge and ideas through discussions and other means and for collaboration between persons interested in different fields of Animal Genetics and Breeding, (iii) Organization of conference, symposia, seminars etc., and other periodicals meetings. (iv) Initiation and promotion of research in all fields of Animal Genetics and Breeding, (v) Publication of scientific and technical journals, policy papers, memoirs, monographs, bulletin, pamphlets etc., on subjects related to Animal Genetics and Breeding, (vi) Providing financial and other assistance for education and research or development activities in the field of Animal Genetics and Breeding.

Society is publishing a research journal “Indian Journal of Animal Genetics and Breeding” on regular basis and also organizing National symposium/conference on annual basis. All income of the society is utilized towards the protection of aims and objectives of the society. The membership of the society is open to academicians, scientists, research scholars and students studying in different institutes/universities/colleges. Information about membership and other details are available on the society website (<http://www.isgab.org>).

## About the Host Institute

The ICAR-Directorate of Poultry Research (formerly, Project Directorate on Poultry) was established on 1<sup>st</sup> March 1988 at Hyderabad, Andhra Pradesh under the aegis of Indian Council of Agricultural Research (ICAR). The Institute originated from All India Coordinated Research Project (AICRP) on Poultry Breeding, an All India Network project launched by the ICAR during IV five-year plan with the objective of augmenting commercial poultry production and achieving self-sufficiency in the country. In the beginning, the coordinating unit of AICRP was located at the Poultry Research Division, Indian Veterinary Research Institute (IVRI), Izatnagar till 1979, which later functioned from Central Avian Research Institute (CARI), Izatnagar till its elevation to the Directorate status in 1988. The institute was elevated from the position of Project Directorate to Directorate on 18<sup>th</sup> September 2013. Further elevation to “Indian Institute of Poultry Research” (as recommended by QRT) is under active consideration with Council. The Institute is working through its Head Quarter in Hyderabad and Regional Station at Bhubaneswar, 12 AICRP centres and 12 poultry seed project centres located at different states of the country.

$$\begin{bmatrix} X'R^{-1}X & X'R^{-1}Z \\ Z'R^{-1}X & Z'R^{-1}Z + G^{-1} \end{bmatrix} \begin{bmatrix} \hat{\beta} \\ \hat{\gamma} \end{bmatrix} = \begin{bmatrix} X'R^{-1}y \\ Z'R^{-1}y \end{bmatrix}$$

The primary research focus at the Institute has been towards the application of quantitative genetic principles to enhance productivity of various chicken germplasm with special emphasis to meet the needs of rural and tribal people of the country. To support the core research programme research on nutrition, health, physiology and molecular genetics has been made an integral component. In addition, a sizeable number of externally funded projects are also being carried out at the Directorate to achieve the Institute's primary goals and objectives.

Holistic approach in research & development is being pursued to prepare package of practices for providing optimum nutrition, management and health coverage to the pure lines as well as crosses developed by the Directorate for intensive and backyard systems of rearing. Research in nutrition at this Directorate resulted in development of technologies that have been adopted by the commercial and rural farmers to reduce cost of production. Besides nutritional knowhow, the Directorate is also familiar among poultry farming community for its services in disease diagnosis, seromonitoring and health care. The nutritional and health care solutions are being offered to the stake holders of poultry farming including network programmes and contract research programmes being operated by the Directorate. The studies on advanced molecular genetic tools like RNAi (gene silencing), SNP typing, marker assisted selection & GWAS, genome editing, transgenesis as bioreactor, SNP chip and genomic selection, genomics of ducks etc. have also been taken up in evaluating and augmenting the productivity of various chicken germplasm maintained at this Directorate. The Institute has developed many high yielding chicken varieties for backyard and intensive farming both at Head Quarter and AICRP centres, to name a few, *Vanaraja*, *Gramapriya Srinidhi*, *Vanashree*, *Krishibro*, *Krishilayer*, *Pratapdhan* (MPUAT, Udaipur), *Kamrupa* (AAU, Guwahati), *Jharsim* (BAU, Ranchi), *Narmadanidhi* (MPUAT, Jabalpur) and *Himsamridhi* (CSKHPKV, Palampur), *Atulya* (KVAU, Mannuthy) etc. These chicken varieties are performing very well at the farmers' field, transforming the farming enterprise more lucrative & beneficial, and providing livelihood and nutritional security to the farmers and consumers in the country.



## Hyderabad – The Host City

Hyderabad is the capital city of Telangana state covering an area of 650 sq. km situated on the bank of the Musi river on the Deccan Plateau. With an average altitude of 542 m (1,778 ft), much of Hyderabad is situated on hilly terrain around many lakes, including the famous Hussain Sagar Lake. Hyderabad is the sixth most populous metropolitan city of India with a population of 9.7 million. With an output of US\$74 billion, Hyderabad has been the fifth-largest urban economy in India. Muhammad Quli Qutb Shah established Hyderabad in 1591 in the name of his wife Hyder Mahal, to extend the capital beyond the fortified Golconda. In 1687, the Mughals occupied the city. In 1724, Mughal Viceroy Nizam Asaf Jah I founded the Asaf Jahi dynasty, also known as the Nizams. Hyderabad served as the imperial capital of the princely state of Hyderabad from 1769 to 1948. After independence, Hyderabad become the capital city of Andhra Pradesh state till 2014 and after that it has become capital city of Telangana state. Since 1956, the city has housed the winter office of the President of India. The Charminar has come to symbolise the city. Other historical monuments like Golconda Fort, Paigah Tombs etc.; art galleries like Salar Jung Museum; Ramoji Film City etc. have been the main attractions of the city. Painting, handicrafts, jewellery, literature and clothing have been unique in the city and through its cuisine, the city is listed as UNESCO creative city of gastronomy. Until the 19<sup>th</sup> century, Hyderabad was known for the pearl industry and was nicknamed the «City of Pearls». Industrialisation throughout the 20<sup>th</sup> century attracted major Indian research, manufacturing, educational and financial institutions. Since the 1990s, the city has emerged as an Indian hub of pharmaceuticals and biotechnology. The formation of SEZ andHITEC city dedicated to information technology has encouraged the leading multinational IT companies to set up operations in Hyderabad.

## Weather, Accommodation and Travel

Weather in Hyderabad during the conference will be pleasant (Temperature ranging from 15 to 28°C).

The delegates should carry light winter garments during the Conference. The Hyderabad city is well connected with all State and National Capitals including other cities/towns by roads, trains and air. The city has an International Airport connected with most of the Indian cities directly. The participants desirous to participate in the Conference will be provided boarding and lodging in Institute Guest Houses and private hotels on payment basis, provided bookings are made well in advance. Limited accommodation is available in the Guest houses which may be allotted on first cum first serve basis.

## Conference Programme

The scientific programme of two days conference will consist of eight sessions including a Scientists-Industry Interface Meet which will be conducted in hybrid mode. The brief programme of the conference is mentioned below:

- ☞ Inaugural Session
- ☞ Keynote address
- ☞ Technical Session-I: Innovative breeding technologies- Current trends and future scope
- ☞ Technical Session-II: Genomics: Phenotype variability and trait expression in animals
- ☞ Technical Session-III: Trends in computational genetics and artificial intelligence in understanding genome complexity
- ☞ Technical Session-IV: ISAGB Young Researcher Award programme
- ☞ Technical Session-V: Scientist Industry Interface on “Agripreneurship in Animal Breeding & Genetics”
- ☞ Valedictory and Plenary session

## Call for Abstracts

The ISAGB invites all interested individuals to submit research abstracts in English (as per guidelines) on the theme of conference/technical sessions for oral/poster presentations. Last date for submission of abstracts is **20<sup>th</sup> November 2022**. All the participants are requested to send their abstract to the Organizing Secretary, ICAR-Directorate of Poultry Research, Rajendranagar, Hyderabad via email: [isagbdpr2022@gmail.com](mailto:isagbdpr2022@gmail.com).

