

Dr. Jitendra Singh Inaugurates 'National Biobank' and India's own Longitudinal Population Data study at CSIR-IGIB

Personalised Treatment Regimens to Be Reality in future, Says the Minister

CSIR-IGIB Advances Indigenous CRISPR Trials on Sickle Cell Anaemia, Anti-Microbial Resistance, Liver Fibrosis and Rare Disorders

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Union Minister of State (Independent Charge) for Science & Technology and Vice President of CSIR, Dr. Jitendra Singh, inaugurated the state-of-the-art Phenome India "National Biobank" at the CSIR-Institute of Genomics and Integrative Biology (IGIB) in the capital today.

The newly launched facility marks a significant stride towards building India's own longitudinal health database and enabling personalised treatment regimens in future.



The Biobank will serve as the backbone of a nationwide cohort study, collecting comprehensive genomic, lifestyle, and clinical data from 10,000 individuals across India. Drawing inspiration from the UK Biobank model, the Indian version is tailored to capture the country's unique diversity—across geography, ethnicity, and socio-economic backgrounds. Researchers believe the initiative will aid early diagnosis, improve therapeutic targeting, and bolster the fight against complex diseases such as diabetes, cancer, cardiovascular ailments, and rare genetic disorders.

“Today, we hold the promise of a future where every Indian may receive individualised treatment tailored to their genetic makeup, lifestyle, and environment,” Dr. Jitendra Singh said while addressing the scientists and researchers at IGIB. “This transition to personalised healthcare is no longer theoretical—it is becoming reality, driven by indigenous innovations.”

Reflecting on the unique health challenges faced by Indians, Dr. Jitendra Singh noted the high prevalence of central obesity, a risk factor often underestimated. He highlighted past research showing that seemingly lean Indians may carry disproportionate fat around their waist, underlining the need for population-specific health strategies. “Our conditions are complex and deeply heterogeneous. This is where the Biobank becomes vital—it allows us to decode that complexity,” he said.



The Minister emphasised that India’s scientific landscape is evolving rapidly, citing recent advances in quantum technology, CRISPR-based genome editing, and the fight against antimicrobial resistance (AMR). “India is no longer lagging behind—we are among the early adopters, sometimes even ahead,” he said. The Biobank, he added, will complement these efforts by generating the kind of high-resolution data that can power AI-driven diagnostics and gene-guided therapies.



Dr. Jitendra Singh also called for deeper collaboration between research institutions, government departments like the Department of Biotechnology, and industry partners, particularly in areas such as AMR and drug development. “Research must extend beyond the lab—it must find takers in the market and beneficiaries in society,” he noted.

The Phenome India Project, under which the Biobank has been launched, is designed to be a long-term, data-rich study tracking the health trajectories of individuals over several years. It will help scientists uncover disease patterns, gene-environment interactions, and response to therapies—all within the Indian context.

Dr. N. Kalaiselvi, Director General of CSIR and Secretary, DSIR, commended the launch of the Biobank as a bold step toward India’s self-reliance in healthcare data. Describing the initiative as a “baby step” with the potential to evolve into a global benchmark, she noted that the diversity and depth of the Indian cohort data could one day rival or even surpass global counterparts like the UK Biobank. Dr. Kalaiselvi highlighted CSIR’s holistic efforts in areas like sickle cell anaemia through indigenous CRISPR-based therapies, affordable diagnostics, and collaborative interventions with tribal communities, while urging IGIB scientists to continue setting national examples in data-driven, people-centric research.

Speaking at the occasion, Dr. Souvik Maiti, Director of CSIR-IGIB, reflected on the institute’s pioneering role in genomics over the past two decades. “We were the first institute in India to begin decoding the human genome at a time when sequencing tools were practically non-existent,” he said. Highlighting achievements such as the development of over 300 genetic diagnostics for rare disorders, extensive work on COVID-19 genome sequencing, and the launch of India’s first drug genome project, he emphasised IGIB’s mission of using global technologies to solve local health challenges. Dr. Maiti also pointed to ongoing work on women-centric studies, breast cancer genomics, and the development of indigenous CRISPR-based therapies for sickle cell disease, adding that IGIB’s research now extends to domains like space biology and AI-based pilot fitness assessments in collaboration with the Indian Air Force.

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