India’s Genetic Diversity Could Make It a Global Destination for Gene Research: Dr. Jitendra Singh

Union Minister Dr. Jitendra Singh addresses Session on System and Synthetic Biology at ESTIC 2026, stressing India’s potential in gene research and biotechnology

India’s diverse genetic and phenotypic profile offers significant opportunities for scientific research and healthcare innovation

Focus on developing domestic gene-synthesis capabilities and strengthening India’s biotechnology ecosystem: Dr. Jitendra Singh

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Union Minister of State (Independent Charge) for Science & Technology and Earth Sciences, and MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr. Jitendra Singh, has said that India’s rich genetic diversity holds significant potential to make the country an important global resource for gene research, with other nations looking towards India for its unique genetic resources in the coming years.

Addressing a session on System and Synthetic Biology at the Emerging Science, Technology and Innovation Conclave (ESTIC) 2026 at Bharat Mandapam, New Delhi, Dr. Jitendra Singh emphasised the need to build domestic capabilities in emerging areas of biotechnology and translate India’s scientific strengths into research opportunities and practical applications.

The Minister said India’s remarkable genetic and phenotypic diversity provides a valuable foundation for research, particularly in understanding variations in disease patterns and exploring new possibilities in healthcare. He expressed confidence that as India develops and scales up its research capabilities, the country can emerge as an important source of genetic resources for the global scientific community.

Dr. Jitendra Singh also stressed the importance of strengthening indigenous technological capabilities in gene synthesis. Dependence on overseas suppliers for specialised research requirements can create challenges for Indian scientists in terms of time, access and research continuity. Building domestic capabilities in this area would help researchers pursue their work more efficiently and strengthen the country’s biotechnology ecosystem.

The Minister said India has considerable scientific talent and that the government has accorded high priority to research and innovation. He emphasised the need to strengthen the support systems required to take research forward, including greater industry participation and funding for promising scientific work.

Dr. Jitendra Singh also spoke about the growing convergence of disciplines and the need to bring together biology, engineering, mathematics and other areas of expertise. Such interdisciplinary collaboration is becoming increasingly important as scientific research moves towards more complex applications and new technology pathways.

Referring to advances in nuclear medicine, the Minister discussed the importance of creating greater awareness about emerging research opportunities and enabling wider participation in the sector. He referred to provisions under the recently enacted SHANTI Act that open nuclear medicine research to private-sector participation, adding that such initiatives can create opportunities for further research and industry engagement.

The discussion also touched upon the need to strengthen the pathway from scientific discovery to technology development and practical application. Greater collaboration among research institutions, industry and entrepreneurs can help promising discoveries progress towards products and solutions that benefit society.

The session was included Dr. Rajesh S. Gokhale, Secretary, Department of Biotechnology (DBT), and brought together scientists and experts to discuss the potential of system and synthetic biology and the development of emerging biotechnology capabilities in India.

ESTIC 2026 brings together scientists, policymakers, industry leaders, start-ups and young researchers to strengthen the interface between scientific research, technological innovation and national development. The conclave provides a platform to explore emerging technologies, encourage collaboration and support the translation of scientific knowledge into practical applications.









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