

AI Is Rewriting Physics Simulations

New DOE mission shows how quantum-scale calculations are being transformed.

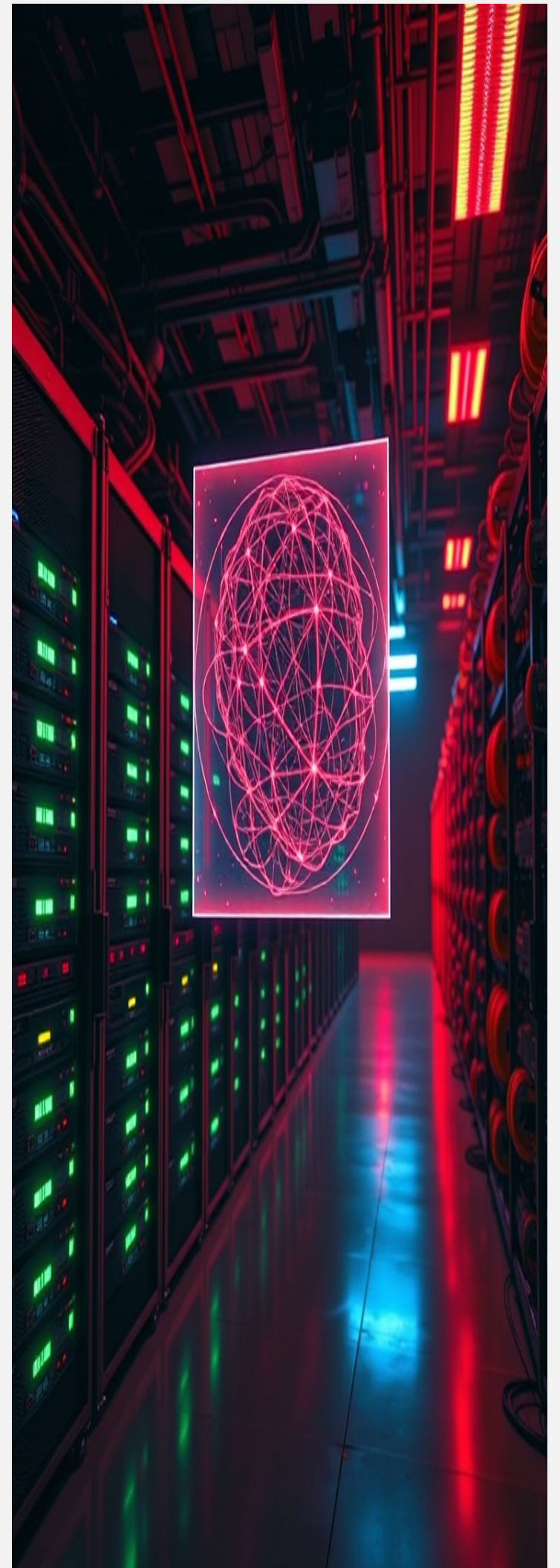
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Phase II

DOE Genesis Mission Award Tier

Carnegie Mellon University researchers have been selected for the second phase of the Department of Energy's Genesis Mission, a national initiative to accelerate scientific discovery through AI and high-performance computing.

This selection marks a pivotal moment in the integration of artificial intelligence with quantum and particle physics research. The Phase II designation indicates that the projects have passed rigorous peer review and are now advancing from concept to implementation with substantial federal support. It reflects a strategic shift in how foundational science is conducted — no longer solely through theoretical modeling or brute-force simulation, but through AI-augmented discovery.



01

AI as a Scientific Co-Pilot

This approach mirrors how quantum computing is being used to simulate quantum systems that classical computers cannot handle. The synergy between AI and quantum systems is no longer speculative — it's being deployed to solve problems that were once considered intractable.

02

Digital Twins Are the New Lab Bench

In quantum systems, where error rates and decoherence are high, this kind of predictive simulation is not just useful — it's essential. The fusion project shows that AI-driven digital twins are becoming the primary tool for advancing next-generation energy systems, effectively creating a 'testbed in the cloud' for high-risk, high-reward science.



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