MIT Professional Education Short Course

GENERATIVE MULTISCALE MATERIALS DESIGN: PHYSICS, AI, MANUFACTURING

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June 1-4 2026 ON CAMPUS OR LIVE ONLINE

Join the frontier of AI applied to agentic materials discovery. In this condensed four-day course, you will move beyond static design to master autonomous AI workflows. Through hands-on clinics and “bit-to-atom” projects, you will build multi-agent systems that do not simply predict properties, but reason, plan, and invent next-generation smart materials. You will enhance your ability to leverage the most in-demand areas of materials engineering: Multiscale modeling, bio-inspiration and cross-domain synthesis, physics-inspired generative AI (PINNs, GNNs, diffusion models, reasoning LLMs), autonomous labs and additive manufacturing. You will learn to orchestrate swarms of AI agents to autonomously hypothesize and validate designs, enabling the invention of materials with superior functions ranging from aerospace composites to self-healing biomaterials and new protein designs.

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