NSF AI Institute for Artificial Intelligence and Fundamental Interactions (IAIFI /ai-faɪ/)

Advance physics knowledge—from the smallest building blocks of nature to the largest structures in the universe—and galvanize AI research innovation

**IAIFI Research**

**Theoretical Physics**
- Nuclear & Particle Physics
- String Theory/Physical Mathematics
- Astroparticle Physics
- Automated Discovery of Models

**Experimental Physics**
- Particle Physics Experiments
- Gravitational Wave Interferometry
- (Multi-Messenger) Astrophysics

**Foundational AI**
- Symmetries & Invariance
- Speeding up Control & Inference
- Physics-Informed Architectures
- Neural Networks Theory

**IAIFI Colloquia**
- Biweekly talks from leaders in AI and Physics
- Broadcast live on IAIFI YouTube Channel
- Fall 2021 held every other Friday at 2 pm

**IAIFI Fellowship Program**
- Three-year postdoctoral appointment
- Freedom in pursuing research and collaborations
- Applications for 2023-2025 open Summer 2022

**Interdisciplinary PhD Program at MIT**
- Physics, Statistics, and Data Science
- Take 4 classes, 1 each in the areas of Probability, Statistics, Computation & Statistics, and Data Analysis
- Submit and defend a PhD thesis that involves the utilization of statistical methods in a substantial way

**IAIFI Affiliate Program**
- Senior researchers in the Boston area contributing to IAIFI mission
- Must include nomination from existing IAIFI Senior Investigator

**IAIFI Resources:**
- Browse Upcoming Events
- Apply to be an IAIFI Fellow
- Learn about Interdisciplinary PhD program at MIT
- View IAIFI Investigators
- Subscribe to IAIFI mailing list
- Junior Investigator Interest Form
- Apply to be an Affiliate
- View Code of Conduct

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