

Academic Grant Program



Call for Proposals: Simulation and Modeling

About This Call for Proposal (CFP)

NVIDIA has been transforming computer graphics and accelerated computing for more than 25 years. We're defining the next era of scientific computing and supporting top researchers doing compelling, computationally intense work to solve some of the world's most challenging problems. Our Developer Programs support researchers in using our SDKs, frameworks, and web services by providing training and creating online communities to help researchers do their life's work using NVIDIA hardware and software.

NVIDIA solicits funding proposals for innovative projects related to simulation and modeling that incorporate Modulus, Omniverse, HPC SDK, cuNumeric, cuQuantum, or CUDA Quantum. Proposals should be attached to one of more of the following themes:

Computational Fluid Dynamics

Explore the physics of fluid dynamics phenomena through experimental, theoretical, and computational methods. Research areas of interest may include:

- > Turbulent flows numerical simulation
- > AI/machine learning (ML) applications in fluid dynamics
- > Heat and mass transfer numerical simulations

Physics-Informed Machine Learning

Develop or apply machine learning techniques that are informed by physical laws, principles, and models. Topics of interest may include:

- > Physics-based reinforcement learning for control systems
- > Machine learning systems for modeling physical phenomena

Quantum Computing

Contribute to the development and understanding of quantum computing technologies and address their fundamental challenges. Research topics may include:

- > Quantum algorithms development and advanced simulation methods
- > Quantum error correction codes and decoding techniques
- > Hybrid quantum/classical applications involving HPC and accelerated computing
- > Simulation of noisy quantum systems, time dynamics, and error mitigation techniques
- > Quantum machine learning and ML/AI methods for quantum computing
- > Accelerated computing methods for classical tasks within the quantum computing stack: optimal control, compilation, and state preparation

Scientific Simulation

Learn to use simulation methodologies and their applications across various scientific and engineering disciplines. Research topics may include:

- > Advance simulation techniques and digital twins for complex and large systems
- > Integrate simulation with experimental and theoretical approaches
- > Employ simulation for solving grand challenges in science and engineering

Award Details

Selected Principal Investigators (PIs) may receive

- > Up to 32,000 A100 40GB hours or equivalent OR
- > Up to 8 RTX 6000 Ada

Not all projects that meet eligibility requirements will be selected for an award. The final award amount will be determined by the NVIDIA awards panel. GPU hours provided to the PI will expire six months after the award; unused GPU hours will be forfeited. Physical hardware will be shipped to the PI.

Eligibility

Applicants must be full-time faculty at accredited academic institutions that award research degrees to PhD students.

Proposal Requirements

Proposals should follow the [proposal template](#) and be a maximum of three pages, not including appendices.

Expectations of Recipients

Award recipients should make reasonable efforts to acknowledge the support of NVIDIA Corporation and reference how specific hardware and software contributed to project results. Recipients will inform NVIDIA of publications, presentations, open-source code and data releases, and speaking engagements that reference the supported project via the NVIDIA academic grant portal. Failure to report in the portal will influence future award selection.

Please review NVIDIA Academic Grant Program [terms and conditions](#).