



**What is INSPIRE?**

Building upon almost seventy years of space mission excellence, the Laboratory for Atmospheric and Space Physics (LASP) at the University of Colorado Boulder proposes a bold new venture: an international University alliance in spacecraft design, scientific exploration, and student education. Centered on campuses around the globe and powered by distance collaboration and education, the International Satellite Program in Research and Education (INSPIRE) joins students, instructors, universities, industry and space agencies across the globe in an ambitious endeavor to educate new engineers and scientists, build and launch new space missions, and drive leading-edge scientific discovery and technology.

*INSPIRE aims to develop a long-term academic program for developing a constellation of small satellites and a global network of ground stations for small satellite operations. INSPIRE provides a novel pathway for training students in building space flight hardware, spacecraft design, mission operations and scientific data analysis. INSPIRE is an inter-disciplinary program as it brings together science, engineering and management and offers a pathway to produce PhDs in engineering and sciences through its multi-year space missions.*

## **Benefits of INSPIRE**

INSPIRE ultimately aims to provide a constellation of Earth & space weather observing satellites and develop a University microsatellite platform to address some of the outstanding questions in quantifying climate change, atmospheric coupling processes and space weather effects. INSPIRE will offer participating universities and industry partners opportunity for cutting edge research in the earth sciences and developing spacecraft technologies.

- INSPIRE will lead to the development of a novel 3-year course curriculum on spacecraft design and space systems engineering. Each INSPIRESat aims to go from concept to flight in three years providing opportunity for under-graduate and graduate student involvement in small-satellite design, building and operation.
- Annual INSPIRE workshops will provide a forum for global educators to come together and share their experiences in building space hardware while facilitating Industry-Academia interactions. INSPIRE workshops will help in space-capacity building exercises for emerging space nations.
- For Industry partners, INSPIRE offers a global R&D partner for technology development and recruitment of skilled personnel globally.
- INSPIRE program can offer industry partners manpower development opportunity through incorporation of personnel into INSPIRESat teams for training and skill development.
- A sustained student exchange program will be initiated, helping students to gain cross-cultural experience in working together on spacecraft sub-systems and instrument development.
- INSPIRE can be incorporated into academic programs at participating universities. A Massive Open Online Course (MOOC) specialization titled “Designing for Space” will be developed by the University of Colorado and offered through [Coursera](#) platform.
- Spacecraft design and training of scientists in an academic environment is severely lacking in most parts of the world. INSPIRE is an opportunity for Universities to take a leadership role on a global scale for capacity building in space technologies and applications.

INSPIRE is truly an inter-disciplinary program as it brings together science, engineering and management. INSPIRE will have affiliated faculty from the sciences and engineering and offers a pathway to produce a constant stream of PhDs in engineering and sciences through its multi-year space missions.