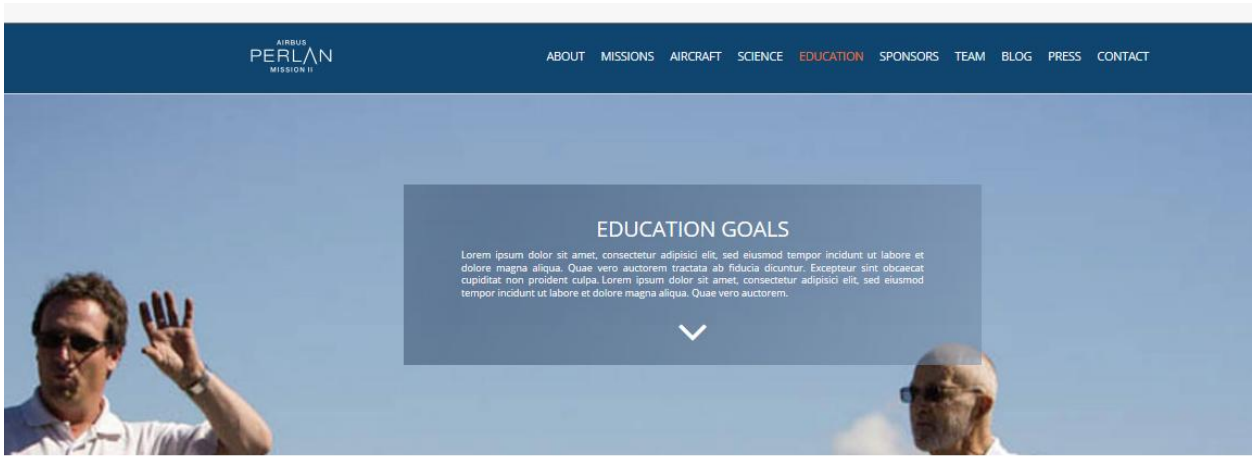
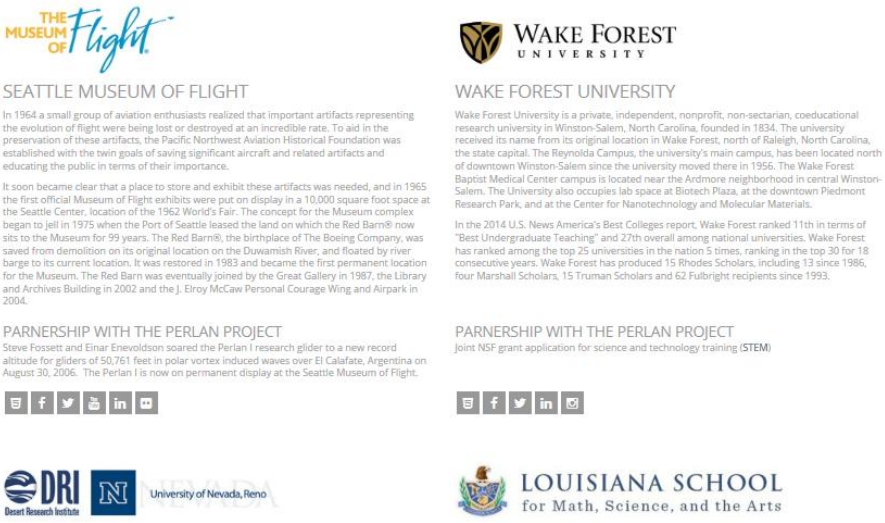
Education





EDUCATION GOALS

Give teachers and students **hands-on** experiences in planning, conducting and analyzing real science experiments at the edge of space. Inspire young people to pursue educations that lead to careers of adventure in science and engineering.

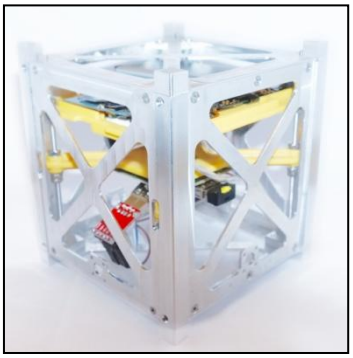
OTHER CONTENT WE CAN POST

Reusable classroom exercises

Video from the flights and mission descriptions will be combined with data sets into "**mission modules**" that can be used to create a realistic replication of a Perlan mission. The class can then use the data for exercises in analysis. The mission modules can be re-used an unlimited number of times in classrooms around the world.

Partnership with Teachers in Space to train teachers to build CubeSats

- During the summer of 2015 there will be a workshop in the design and programming of CubeSats. These instrument packages will be carried to the edge of space by the Airbus Perlan 2 research glider.



Classes and student researchers design experiments

- Teachers will return to the classroom and design experiments that will conform to the CubeSat standards
- Some of the designs will be selected for flight on the Perlan II. Other designs will be launched by balloon. Teachers in Space will conduct the balloon launches

Portable cockpit flight simulator

A simulator has been designed that will provide both training for Perlan pilots and experience flying at the edge of space for students. The mockup will be easily transported by trailer to schools, museums and public events. The goal will be to give as many your people as possible a "hands on" experience flying a research plane at the edge of space. As students sit in the realistic cockpit they will perform all of the functions of actual mission pilots. Outside the windows vistas of the earth and sky will be projected. The goal is to give kids a taste of real exploration that will be addictive.

Design of reusable instruction modules

Prior to uploading mission profiles, video materials and data into an instructional module we would need to create:

- A website where all materials would reside
- A "wire frame" structure for lessons into which data sets and mission profiles can uploaded
- Links to reference materials for teachers on weather, the Polar Vortex, climate change, the ozone hole, atmospheric physics, aerodynamics, pilot physiology and other related topics

2016 summer activities for teachers in Argentina

The goal would be to see an international set of secondary level teachers participate in the expedition to Argentina. This is in addition to University level researchers that will be participating in the mission.

Upload data from CubeSats

Following missions teachers could download data from the CubeSats, document relevant mission parameters and upload the data to internet for access by classrooms and researchers.

Package and upload video and mission profiles into instructional modules

The goal would be to make the data, video and mission profile available in a format that would allow classrooms all over the world to conduct classes discussing, plotting and analyzing the data gathered by the CubeSats or other the instruments carried to altitude on the Perlan aircraft.

Weather balloons

Teachers will work with meteorologists to launch and monitor weather balloons in support of the Airbus Perlan 2 mission.

Chase plane crew

Qualified teachers may qualify to fly in the chase plane to perform experiments, take observations, provide communications, operate cameras or other suitable activities.

Number of teachers who could participate in Argentina

Initial estimates are that a group of three teachers could be on site at one time. Each set of teachers could be onsite four weeks. The range of dates for a campaign in Argentina range from June 1 - Oct. 31, but with school dates teachers would probably only be available June 15 to August 15. To cover this period we would need two sets of teachers.