Global Space League Upcoming Ride-Along Opportunities

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And the Global Space League Team
So you want to do a flight experiment...

You’ll be needing:
An experiment
A vehicle
Some cash
Global Space League’s Mission

Take student experiments to environments not usually accessible to them (stratosphere, deep ocean, etc) while encouraging the development of new low-cost vehicles to explore these environments.
Our value added for vehicle providers

• Provide sponsorship for test flights of vehicles not yet part of any conventional programmatic roadmap
• Develop awareness of new vehicle capability by having very public flight demonstrations
• Aggregate student experiments (K-University) to ride along on tests
Our value added for scientists and students

- Generate opportunities for experiment ride-alongs to the stratosphere, deep ocean, and similar environments that would not normally be accessible to students.
- Excite students about science careers while performing good science experiments of use to real scientists.
- Make events media- and sponsor-friendly: aggregate enough events and schools to support needs of national-level sponsors -- difficult for any given school/vehicle on its own.
How does it work?

- Schools subscribe and get announcements of opportunities to compete for flights.
- No cost to fly on vehicles for winning schools: these costs covered by corporate sponsors and/or grants.
- Public science-oriented family events wherever logistics of expedition allow, e.g. at partners such as museums.
- “Buddy school” program allows schools in different climates to select each other to do experiments together.
NEW VEHICLE PROVIDERS

ONGOING FIELD PROGRAMS

HIGH-LEVERAGE OVERLAP

PUBLIC AWARENESS

ENTERTAINMENT COMPANIES

SCHOOLS AND UNIVERSITIES
Selected Vehicle Partners
HighShips

- LTA vehicle development company-maker of flight vehicles for Sept. 02 & July 03 events.
- Developing multi-day altitude-maintaining miniship.
- Relocated 6/03 to Frederick, OK from CA to take advantage of flight line access and incentives.

Key technology: small, capable robot airships.
Specializing in design, control, and tele-operation of highly capable robotic systems for scientific discovery, technology validation, and engineering education.

**Hands-on Interdisciplinary Engineering Program**
- Strong undergraduate mechatronics/robotics curricula
- Comprehensive interdisciplinary senior design project experience

**Robotic Devices for Land, Sea, Air, Space**
- Ideal systems for teaching engineering education
- Experimental systems for undergrad/grad research
- Exciting devices for public/K-12 outreach program
**Student Design Project Examples**

- **Roverwerx**: Land rover used for demonstrating remote manipulation and navigation.
- **Bronco Blimp**: Airship for remote monitoring and dynamic control experiments.
- **Remote-Controlled Plane**: Aircraft for automatic control and formation flying research.
- **Triton**: Undersea robot used for marine science and testing novel underwater technologies.
- **Emerald Satellites**: Earth science spacecraft demonstrating advanced formation control technologies.
  
  Horvath GSL - Smallsat 2003.
- **Robotic Control Network**: Global robotic command/control network operated via internet.
XCOR Aerospace

• Developer of EZ-Rocket flying testbed
• Key technology: development of low-cost systems for reliable space access
Events to Date and Plans
Global Space League flights
(Frederick, Oklahoma)

- First GSL event, 9/28/02
- RocketCam™ flew over OK on HighShips vehicle
- Paper airplanes flew over 90 miles!
- Columbia memorial, 7/4/03
What’s next?

- **Fall 2003, California:** coastal waters trip on a robot submersible
- **Fall 2003, Oklahoma:** Balloon-based meteorology instruments
- **Winter 2003:** Build the Earth: a 3-m diameter LTA sphere will have its surface divided into 5000 pieces which will be colored in by kids worldwide. Moon, Mars, Venus to follow.
- **TBD:** Shipboard ride-alongs and record-setting flight(s) with student co-validation.

All events subject to regulatory approval and success of ongoing fundraising.

Horvath GSL - Smallsat 2003
What can you do?

• Create an experiment, get a ride
  – Let us know an experiment that “fits” participatory model
  – We will work it in as we can
  – Come by Takeoff Technologies booth to discuss mass and other constraints for arrangements in work

• Sponsor a school or a flight

• Take along our payloads on your test missions
Thanks to our sponsors and key partners:
Sam's Club of Lawton, Okla.; Wal-Mart of Burkburnet, TX;
Oklahoma Space Industry Development Authority (OSIDA); Pioneer Internet;
Great Plains Technology Center; BancFirst; CallWave;
Kirkpatrick Science and Air Space Museum at Omniplex, Oklahoma City;
American Meteorological Society's Weatherfest; Metzeler Automotive;
Community Action Development Corp of Oklahoma; Digital Radiance, Inc.;
Red River Transportation; First National Bank in Altus; HighShips;
Frederick Chamber of Commerce; Ecliptic Enterprises Corporation;
Fitch Industrial and Welding Supply; Pasadena Entretech;
McBee, Benson and Benson; SpaceBenefit.org (Berlin, Germany);
Takeoff Technologies LLC; Santa Clara University Robotic Systems Lab.