

NEW SEDS PARTNERSHIP FORMING



SEDS recently entered into a partnership with the Cooperative Satellite Learning Project, a program headed up by Maryland SEDS Alumnus Marilyn Glass, who is also the recipient of the first SEDS scholarship. SEDS-USA Chair, Chris Lewicki met with Marilyn in August, and she is now working with SEDS-USA Director of Educational Outreach, Chris Deards.

The Cooperative Satellite Learning Project (CSLP) is a unique, successful, and award winning partnership in education adjoining Allied Signal Technical Services Corporation, and NASA with schools nationwide. It is designed to motivate students of all ages into science, engineering, math, and careers in the space industry through hands-on involvement in a NASA scientific satellite mission. It responds to the challenges of our nation's AMERICA 2000 program and our workforce needs for the future as we move to a high technology, globally competitive environment. It also serves to prepare the students for entry into the workforce by building group communication, public speaking, planning, and organization skills through small group special projects. It is an education reform initiative, proven through 5 years of pilot program implementation at the Laurel High School in Laurel Maryland. Managed by the Allied Signal Technical Services Corporation, the program is now poised for implementation nationwide.

Here are some ideas Marilyn recently shared concerning SEDS participation in the program:

- Get some of the SEDS chapters connected to the eight CSLP schools.
- Start looking at the material which CSLP is developing, let me know what you think, how we can make it work for SEDS, and how to improve it. Several educational projects are in the works. I have people working on: Astronomy packets, rocketry program, Telescopes in Space, Orbital Dynamics, Work Environment skills and lots more. We will put all developed material on the homepage. It would be wonderful if SEDS chapters could use this resource for educational outreach. (Everything I put on the home page is public domain)
- If any SEDS chapters have worked on educational outreach, and have developed activities or projects. I would love to hear about them.
- After more of the CSLP materials are available, SEDS could approach local high schools, develop new CSLP programs, and individual partnerships. How to do this will be covered in a seminar early next fall.

List of CSLP Schools

DuVal High School, Lanham MD 20706
Keystone Oaks High School, Pittsburgh PA 15216
Laurel High School Laurel MD
Old Bridge High School, Old Bridge NJ 08857
South Fayette High School, McDonald PA 15057
Stephen White Middle School, Carson CA 90745
Utica High School, Utica MI 48317
Woodlawn High School, Baltimore MD 21207

More information about CSLP is available at:
<http://joy.gsfc.nasa.gov/CSLP/home.html>

If you would like to participate in the program, please contact Chris Deards at outreach@seds.org.

"It has been a unique experience and has given me the opportunity to learn about space exploration. It has also allowed me to communicate with other students from different areas of the United States to help me learn even more. I am very excited about upcoming trips to NASA and the launching of the EAST satellite."

- Rachel Gerard (South Fayette Jr./Sr. High School)



**STUDENTS
FOR THE
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AND
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OF SPACE**

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NEW DIRECTIONS

What is better than SEDS? More SEDS!!! As a member of an existing SEDS chapter, you can do your part to help SEDS grow.

How? First, leverage what already exists. If your chapter is having a special speaker or event, make a point of sending invitation flyers to the astronomy or engineering programs of nearby universities, community colleges and especially close high schools. Also post an invitation to SEDS-L, because a lot of people read this list who are thinking of forming their own chapters — seeing an existing chapter in actual always helps. Even make a point of holding a joint event with a nearby SEDS chapter. The synthesis will make both chapters stronger and inevitably will build the credibility of SEDS with other nearby space organizations.

Second, participate in the international development of SEDS. Does your university's home city have a sister city abroad with a university? Try to establish some sort of liaison with relevant students there.

Third, perhaps some of the members of each SEDS chapter can ADOPT (so to speak, really to act as a liaison) organizations related to space (local NSS chapter, AIAA, CAAE) and nearby educational institutions (science departments of high schools, astronomy or engineering departments of colleges without SEDS chapters) just to get the word out. A telephone call once a month about whatever is happening with SEDS (if things are slow locally, mention something happening at another chapter). There are usually too many places for the chapter chair or PR officer to contact, so splitting up the work really helps get the word out about SEDS.

Don't forget. SEDS is the only space interest organization run for students by students. We don't have a big parent organization to take care of promotion for us. Each member has a part to play, and together we can make a difference.

— Mark Ciotola, Expansion

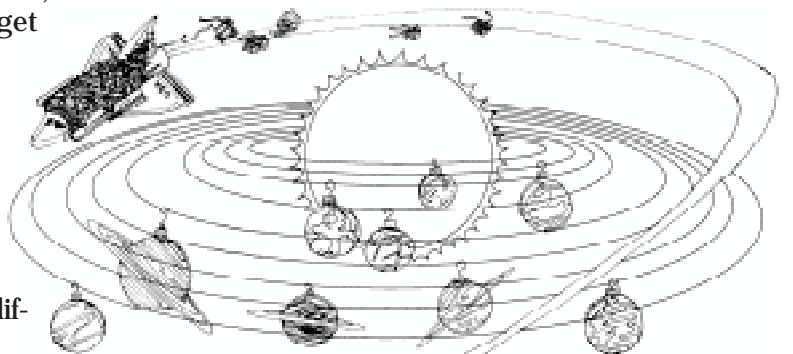
NATIONAL CONFERENCE

What do Mickey Mouse, the space shuttle, Space Camp and SEDS have in common? They all are part of the 1997 SEDS National Conference! On Saturday, May 24, 1997, the SEDS National Conference is coming to Orlando, Florida! And while the date may seem far away, we need chapters to start working on making sure they are represented at this important (and fun!) annual event.

Held in conjunction with the International Space Development Conference (ISDC), the annual conference of the National Space Society, SEDS '97 will offer an opportunity for chapters to exchange ideas, share project reports, and catch up on national activities. But wait, there's more! There will also be opportunities to experience the best of this spaceport and tourist area. Short of launching the shuttle (now a real possibility), SEDS-USA is working on arranging activities at Kennedy Space Center, US Space Camp, and at Disney's Pleasure Island. We are also working on bringing some very special guests to present some very fascinating lectures.

So by now, I am sure you want to attend. The question remaining is how much? Well, in the next issue of NOVA, we will present information on how your chapter can find resources to supplement you and your members. In the meantime, if you want more information, you can write me at rpearlman@seds.org, and I will e-mail you the latest information on hotel reservations, conference registration, and planned activities.

SEDS '97 promises to be a fun, interesting weekend of space-related presentations, fascinating sites and sounds, and most importantly, a great chance to meet your fellow SEDS members from across the nation. Make sure your chapter is counted!



SOUND BYTES

Life On Mars?!? President Calls Space Summits! What do students think?

Beginning this December, SEDS-USA will test a new program to publicize student views on space related issues and news announcements. Commencing with the Presidential Space Summits, SEDS will author press releases commenting on these policy-deciding meetings, focusing mainly on students' thoughts and opinions from across the nation.

However, instead of citing Board of Director members and chapter presidents exclusively, SEDS-USA would like to quote the average student as well. To do this, we are going to need each chapter's help.

If each chapter could appoint a representative (this can be one of your national representatives or someone new) and email their address to me (rpearlman@seds.org), a mailing list will be created that will be used to notify chapters of upcoming press releases. Once alerted, the chapter representative would poll members (and other students, if desired) on the issue at hand and forward selected comments to me. These "sound bytes" will then be compiled into the national press release.

The press releases will be sent to national newspapers, magazines and television programs. An appropriately altered version will be sent to each chapter for submission to local publications and shows. The local version will allow for individual chapters to feature more of their members' reactions.

Chapter representatives should be selected as soon as possible. It is not mandatory for a chapter to participate, but we hope to represent all chapters in these releases. The "Space Summit" release will work as a test of this program and will decide the future format of SEDS press announcements.

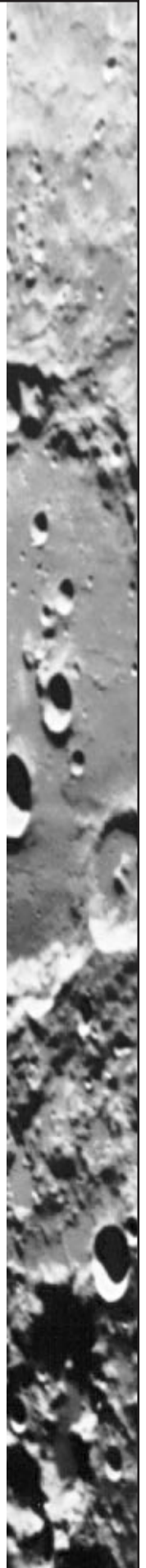
- Robert Pearlman, Vice Chair

University of Arizona Amateur Radio Club, received sponsorship from the University of Arizona Department of Planetary Sciences and Lunar and Planetary Laboratory (PTYS/LPL) to the tune of \$4000. The funds were put up as a challenge grant to the College of Engineering and its departments, under which the Radio Club is sponsored. UA SEDS is sponsored by PTYS/LPL. Efforts are currently underway in an effort to obtain the matching funds for a total of \$8000 of University sponsorship. UA SEDS goal for this school year was to raise \$12,000.

The money will be used to purchase equipment in support of the project, including: a rooftop tower, satellite modem, antenna rotator and computer controller, antennae and associated equipment, and go a long way towards purchasing a ground station computer and other initial expenses. UA SEDS members Andrew Tubbiolo, Ramon Gonzales, Aaron Schultz and Chris Lewicki have been working with Dennis Wingo of the University of Alabama at Huntsville in developing the UA SEDS ground station as the primary data center and a primary ground station for the SEDSAT satellite to be launched in the summer of 1998 aboard a Delta II. Together they will be developing a new approach to amateur satellite data acquisition, which will utilize globally-located satellite ground stations linked to the Internet in order to allow for near-real time data availability for anyone on the planet.

UA SEDS recently presented a poster about the project at the American Astronomical Society Division of Planetary Sciences meeting in Tucson, Arizona, and a few weeks later at the AMSAT annual conference, also held in Tucson. More information about the SEDSAT project is available at <http://www.seds.org/sedsat> and ground station info is also available from there. This info will soon be updated with detailed information about the UA ground station. The SEDSAT team has resumed posting weekly updates, and these will be posted on the SEDS ftp site and the SEDSAT web page. You can also obtain them by subscribing to the SEDSAT list at seds.org -Chris Lewicki, Chair

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PEGASUS LAUNCH VEHICLE

We've all heard the phrase "Faster, Better, Cheaper", but does this slogan actually work? Can you have faster, better, and cheaper in one package?

I've had the unique opportunity to co-op with Orbital Sciences Corporation for the last seven months. I've been able to see firsthand the Pegasus launch vehicle, the only small launch vehicle that has successfully put satellites into orbit. The Pegasus XL costs only about \$11.5 million for a government launch and \$12.5 million for a commercial launch. So what makes it cheaper than its brethren? Is it that it's not as reliable? The answer is no. Pegasus is less expensive due to its ingenuity. Unlike most launch vehicles, Pegasus is not the typical 4-stage ground launch vehicle. Pegasus is dropped from an OSC owned, reusable L-1011 aircraft, avoiding the expense of the costly stage 0. After drop from the carrier aircraft, Pegasus uses its 3 stages to reach orbit.

Pegasus has now launched 14 times, 11 of those being complete successes. In the past year alone, Pegasus has placed four satellites into orbit for various corporations, NASA, and the military. Pegasus is working an amazing schedule that launches every six weeks. So, what's the down fall? Due to Pegasus' recent successes, the corporation has a large back log of manifests to process. This can mean pushing a launch date back farther than a customer would prefer. However, secondary payload spots are starting to fill up with smaller satellites for those companies not willing to wait for another launch. These secondary payloads are

a cost effective way to provide service to smaller companies.

The recent setback on the launch of the payload SAC-B has amazingly not pushed upcoming missions back by more than a week. Investigations are simultaneously being conducted to explain the inability to separate the payloads on the SAC-B launch, along with vehicle testing for the upcoming Minisat mission.

Orbital Sciences is growing fast with its continually growing manifest for the Pegasus vehicle, an upcoming launch for its ground launch vehicle, Taurus, and the company's newest interest, the Orbcomm Satellites. Due to OSC's ingenuity in launching from the L-1011 aircraft, they have recently won the grant to develop the X-34 vehicle. This reusable, single stage to orbit launch vehicle will also be dropped from the L-1011. Design, prototyping, and testing is currently underway at a new facility in Dulles, VA. OSC began as a three-person company in 1982 and has now grown to about 3000 employees. OSC is always looking to hire both new graduates and experienced engineers. If you're looking for a job, it's a unique environment working in a small company. You have the ability to develop new advancements for the launch vehicles as well as being responsible for a specific component on the vehicle. The future of space exploration is dependant on corporations like OSC, willingly to take new and daring risks, and young, keen minds like our own to lead the way to that "faster, better, cheaper" solution.

-Amber Thweatt, Chapter Affairs

REMINDER REMINDER REMINDER

- Attention Chapters! We are still waiting to receive the chapter registration information from many of the chapters. We realize that the deadline was inadvertently omitted from the registration information, but you should have received a reminder from SEDS-USA Director of Chapter Affairs, Amber Thweatt, informing you of the error. If SEDS is to remain an active and growing organization, we need this information from you as soon as possible. Amber will start to contact all the chapters representatives first by email, and then by phone, as soon as we can verify all the contact information (from your chapter registration). SEDS-USA will be setting up a toll-free voice mail "hotline" shortly, but until then, you can simply email info@seds.org if you would like someone to contact you.
- T-Shirt Design Entries Still Welcome! We are still accepting submissions for the SEDS-USA National T-shirt design contest. We hope to be able to make these T-shirts available for purchase in late January. The exact prize for the winning entry has not been selected yet, but it will be approximately a \$50 value. Please contact chair@seds.org with your T-shirt design entries!

SPACE EVENTS CALENDAR

I am proud to announce a new service to SEDS members and the internet space community. The SEDS Space Events Calendar will be a developing comprehensive resource listing all events that may be of interest to us in the space community. You can check it out at: <http://www.seds.org/events/>

Currently, there are two options you may choose from. I encourage you to explore both options.

- Search the Event Database
- Schedule a New Event

When searching the database, you are presented with a dynamically generated form from which to select your search parameters. You can do any combination of the following:

+ Event Name Search + Date Constraints + Location searches (Any combination of City, State or Country) + Category (Chose from the given list) + Event Sponsor Search

If you don't enter in any search parameters, the entire event database will be returned. Once you've made your search, you are given a list of the matches. Then you can click on the Event name to get event more detailed info about it. Also, be sure to check out the "Schedule Event" option. This allows any one to go in and schedule a new event. Why don't you schedule in a few of your chapter meetings or other events? All entries are not made public until they are "approved" by the database administrator (myself).

This system was designed with the hope that it could be utilized to the fullest extent. I would like to see all the local space events going on *everywhere* listed in the database, and all of the big events as well. This way, it will truly be a resource for everyone, as they can see what's going on in their area.

I'd appreciate any comments you may have about functionality, style, or features.

-Chris Lewicki, Chair

HIGHLIGHTS - DECEMBER SKY

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|----|---|----|--|
| 1 | The moon is at apogee (404,654 kilometers from Earth), 5:32 a.m. | 15 | Mercury is at greatest eastern elongation (20°), 2 p.m. |
| 3 | Last quarter Moon is at 12:06 a.m.
The Moon passes 4° south of Mars, 4 p.m. | 17 | First quarter Moon is at 4:31 a.m.
The Moon passes 3° north of Saturn, 3 p.m. |
| 8 | The Moon passes 2° north of Venus, 8 a.m. | 21 | Winter solstice is at 9:06 a.m. |
| 9 | Asteroid Kalliope is at opposition
Asteroid Pallas is in conjunction with the Sun | 22 | The Moon passes 0.9° north of Aldebaran, 7 p.m. |
| 10 | New Moon is at 11:56 a.m. | 24 | Venus passes 6° north of Antares, 2 a.m.
Full Moon is at 3:41 p.m. |
| 12 | The Moon passes 5° north of Jupiter, 6 p.m.
The Moon is at perigee (364,237 kilometers from Earth), 11:17 p.m. | 29 | The Moon is at apogee (405,522 kilometers from Earth), 12:27 a.m. |
| 13 | The Moon passes 4° north of Neptune, 2 a.m.
Geminid meteor shower peaks
The Moon passes 5° north of Uranus, 1 p.m. | 31 | The Moon passes 3° south of Mars, 11 p.m. |



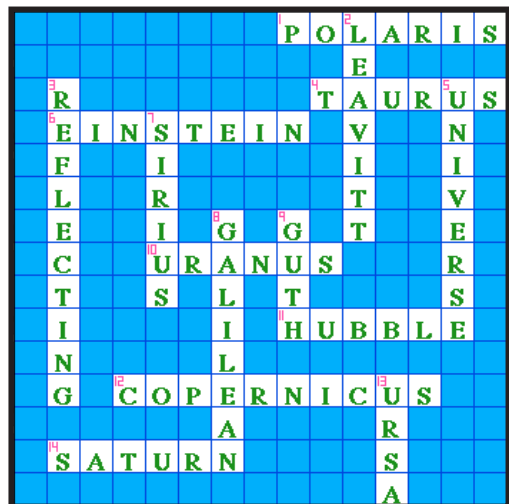
GO FOR THE GLORY:

SEDS REGIONAL EXPANSION

COORDINATORS NEEDED NOW!

SEDS-USA is launching a campaign to expand the number of chapters across the U.S. in order to have a greater impact in our outreach efforts. A cornerstone of this effort will be volunteers at the regional level, such as within a few states or even around a single city. SEDS needs these volunteers to encourage prospective chapters to organize themselves to the point they register with SEDS. This effort will directly benefit existing chapters by making regional events more possible and providing additional intramural interaction.

SEDS already has quite a few contacts, so no cold calling would even be necessary, and volunteers will receive extensive assistance from the Director of Expansion and other officers where appropriate. To find out more, please telephone or email Mark Ciotola #(415) 564-4114, acentaur@futon.sfsu.edu.



OCTOBER

CROSSWORD

PUZZLE KEY

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 Editor: Birgit Dahlberg, KAMSC SEDS

Mail requests for chapter and individual membership information to the SEDS National Headquarters.



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