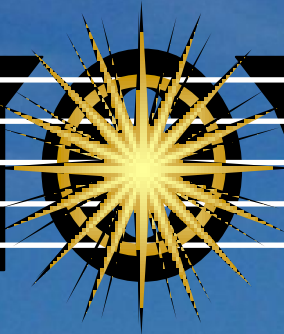


1st Quarter 2009

NOVA



SEDS



Table of Contents

Endowment Fund	4
SEDS Alumni Spotlight	5
SpaceVision 2008	7
The Future Global Space Race	8
Upcoming Conferences	9
Chapter Updates	10
Crossword	13
SEDS-USA Board	14



Front Page:

Discovery's at the Pad

Viewed across the waters of the Banana River at NASA's Kennedy Space Center in Florida, space shuttle Discovery is secured on Launch Pad 39A. First motion was at 5:17 a.m. EST and the shuttle was secured to the pad at 12:16 p.m. Photo credit: NASA/Troy Cryder January 14, 2009

Above:

Liftoff of the SpaceX Falcon 1 Flight 4 vehicle from Omelek Island in the Kwajalein Atoll, at 4:15 p.m. (PDT) / 23:15 (UTC). Credit: SpaceX



NOVA

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Letter from the Chair:

SEDS,

Welcome to the next generation of the Nova Newsletter. As I write this, I am glancing over previous renditions of this publication. Nova has come and gone throughout the history of SEDS, but has always brought the latest in SEDS news to our members.

The idea of a quarterly newsletter may seem old fashion in an age where social networking utilities such as Twitter provide news instantaneously. But while the Nova will carry articles on recent events in space, its primary purpose is to provide regular updates on events at the local chapters. These articles can be read just for fun, or to give you ideas to use at your own chapter.

This publication is made by SEDS students, for SEDS students. If you find an article in this Nova that appeals to you, print off a few copies of the Nova and place them in your home chapter for others to enjoy. If you think "I could do better than this", then I urge you to write articles for next quarter's Nova! One of the biggest problems with the Nova is getting members to write articles and submit content. Only with your help will this newsletter be a success!

Before I close, I would like to encourage every SEDS member reading this to attend both the International Space Development Conference and New Space Conference this summer. SEDS National has arranged large benefits for any SEDS member attending these conferences, including discounted admission, exclusive talks, and much more. Get the most out of your SEDS membership this summer!

Clear skies,

Joshua V. Nelson

Chairman, SEDS-USA
Email: chair@seds.org
Twitter: The_Stargazer



A NOVA frontpage from October 2001

Students for the Exploration and Development of Space Announce Endowment Fund

*Ryan McLinko
Vice-Chair*

December 4, 2008

College Station, Texas – The Students for the Exploration and Development of Space (SEDS) have announced the creation of the new SEDS-USA Endowment Fund, and revealed \$30,000 of initial pledges. The Endowment Fund will support the day-to-day activities of SEDS-USA and national projects run by students across the United States. Since the organization was founded by Todd Hawley, Peter Diamandis, and Bob Richards in 1981, SEDS has played a lead role in organizing and inspiring today's students to promote the exploration and development of space and become the next generation of leaders in the space industry.

The Endowment Fund was created with the signing of the Endowment Trust Agreement by SEDS Co-Founder Bob Richards, who was on hand after speaking to students at the SEDS SpaceVision Conference earlier in the day. "This is a historic moment for SEDS," said Richards. "The endowment will help SEDS continue for decades to come as the world's pre-eminent student-run space organization supporting our transition to a space-faring species." With the instatement of the SEDS Endowment Fund, the organization will have access to a significant, stable source of funding. The launch of the fund served to kick off a national fundraising drive, with the goal of raising \$300,000 by the annual SEDS Space Vision Conference in November 2011, when SEDS will celebrate the 30th Anniversary of its founding. The Family Legacy Trust Company of Dallas, Texas has agreed to administer the fund under the approval of the new SEDS Board of Trustees, whose initial members included SEDS co-founders Peter Diamandis and Bob Richards, SEDS Alumni John Gedmark and Will Pomerantz, and SEDS donor Elon Musk.

"Since the founding of SEDS over 25 years ago, creating an Endowment is the most critical step in ensuring the organization's strength, growth and endurance in the future. I am proud to be a contributor and hope many others will help at this pivotal moment in the organization's history. Every dollar or Euro helps!" –Peter H. Diamandis, SEDS Founder

Parties interested in helping to secure the future of exploration and development of space via today's students by becoming a donor for the Endowment Fund should contact Ryan McLinko, SEDS Vice-Chair, at (704) 609-7416, mclinkor@gmail.com.



SEDS Co-Founder Bob Richards signs the trust agreement creating the SEDS Endowment Fund, as student leaders and SEDS alumni look on.



SEDs

Alumni Spotlight

Name: Frank Centinello

University/SEDs Branch: UB SEDs (Buffalo)

Year Graduated/Degree: 04 BS Aerospace, 07 MS Aerospace



Are you currently going to graduate school or employed?

Currently, I'm a member of the Lunar Reconnaissance Orbiter Camera science operations team at Arizona State University. We are responsible for sending targeting commands to the cameras on board LRO spacecraft, and distributing the incoming data to the scientific community. Right now, the job involves preparation. We are making sure we're ready to go into operations after LRO is launched on May 7th. After that, we're going to be staffing nearly constantly during the calibration phase of the mission, which precludes the one-year-long mission which is to take high-resolution images of landing sights and resources for NASA's up-coming manned missions.

Also, I'm waiting for word on whether I'll be heading back to graduate school this fall to begin work on a PhD in earth science.

Out of all the *annual* space conferences or events you have attended, which one would you suggest the most to current SEDs members? Why?

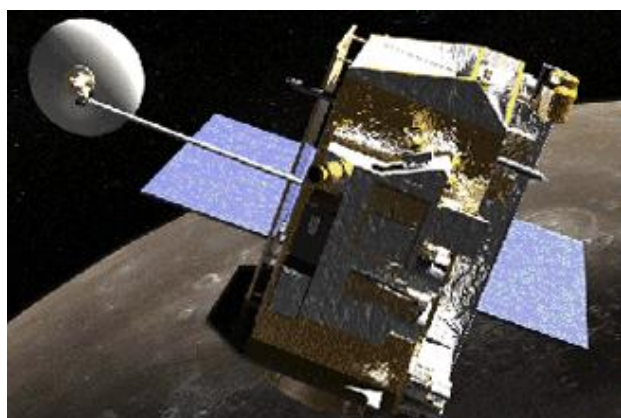
Each meeting has its own feel. Some are professional, and some are geared for students. As long as you try to attend one a year, and vary your attendance, you'll experience the entire breadth of what's going on in our field. The Space Visions meeting put on by SEDs, I feel, ranks very highly in terms of provocative and worth-while meetings. There you'll meet who you are going to be working with while you build your dreams.

I've also presented my research at the International Astronautical Congress (IAC). It's a great venue to meet those that are working at the forefront of space exploration and development from around the world. I've made a lot of fantastic contacts at IAC, and have had some very cool job opportunities come out of my attendance there. All of these meetings are important. I've had unique opportunities come out of each. Don't try to do them all in one year, and vary your experiences. That will provide you with the greatest variation in contacts and possibilities.

Continued on the next page...

Image courtesy of the Lunar Reconnaissance Orbiter Camera team

<http://lroc.sese.asu.edu/>





Alumni Spotlight

Continued from the previous page...

In what ways did your involvement with SEDS help you follow your dreams?

I have always wanted to provide others with the opportunities I was afforded by participating in the NASA Academy internship and the Space Generation Congress in 2006. This came after what I felt was a difficult search for my place in the space exploration industry. I saw SEDS at UB as a way for students who had industry experience to provide guidance to those without it.

After all, the aerospace industry is a daunting forest to wander through, and most of it has little to do with space exploration. If a young engineer or scientist faces the industry alone, he or she may end up losing sight of their original motivation for joining it. I believe that most people join our field because they were inspired by the space program or deep questions about our place in the universe. If that is true for you, never lose sight of it; the aerospace industry may try to convince you otherwise.

Because we have SEDS, undergrads can now rely on upperclassmen and alumni for advice and help in starting their space careers, rather than trying to investigate the industry alone. That was our goal for SEDS at UB, and as long as you are holding meetings and lighting the way for those that want to work in space exploration and development, you will be one of my dreams come true.

What is one fun/crazy/memorable SEDS event or memory which you will always remember?

The year we started SEDS (2007), we raffled Sabres tickets in Capen Hall at the University at Buffalo. It was a little ridiculous. I remember we were giving away coffee and Ed was playing guitar in the lobby as if it was some kind of open mic night. Oh, and it was midnight. All that so we could convince SA that we were serious. I remember because of that raffle we had a respectable budget without SA's help. That's an example of the motivation of a group of space enthusiasts.



Interviewed by: Matt Cannella, SEDS-USA Director of Publications



Letter from the SpaceVision 2008 Conference Chair

SpaceVision 2008 was a fantastic success. Our speakers did a great job of bringing more awareness to all aspects of the space industry, and went above and beyond by truly engaging the students both on and off stage. The development forums allowed us to discuss and develop the way our organization operates in very productive sessions, while the career fair showcased the many opportunities available for our members. Finally, the banquet let us celebrate the achievements and relationships that make SEDS such a unique group.

We would especially like to thank our sponsors: Jacobs, Lockheed Martin, Boeing, the International Space University, and the Space Frontier Foundation; without their assistance none of this would have been possible. Also instrumental to our success were the support staff at the university. My personal thanks go to the volunteer staff who kept everything moving smoothly through the even the unexpected events. Finally, my thanks go to everyone who attended, because you all are what truly made this conference the success that it was: SEDS and SpaceVision are the students and our supporters, and we would be nothing without you.

After the elections held on Sunday, 16 November, the University of Arizona has been selected to host next years conference, and I am already looking forward to a great time in Tucson in November 2009. For more information feel free to contact Kyle Stephens, the new conference director.

I hope that everyone enjoyed your stay here in Aggieland, and I hope to see you all in Tucson next year for SpaceVision 2009,

Brian Young



Commentary: The Future Global Space Race

by Ben Corbin, courtesy explorerfish.com

In the past decade we have seen new players emerge in the global government space market. China and India have had recent success with manned spaceflight and a lunar lander, respectively, and other countries are hard at work getting space programs and technologies up and running.

As much as a global space market of purely international cooperation sounds like a dream, it is not.



Rewind a few decades - the Apollo program has been called a "technological mutation," a project that was abnormally ahead of its time. The Cold War rapidly accelerated development of technologies that would allow man to travel into space, a push that replaced decades of natural technological development. For every dollar that was invested in the Apollo program, the United States earned back almost \$9 on its investment.

In the private industry, competition drives companies to develop the best products at the lowest prices. The private space industry is no different, and the global space industry doesn't have to be any different.

As Virgin Galactic, XCOR, and Armadillo Aerospace compete to put tourists in space, NASA, ESA, JAXA, and CASC should be competing toward a common goal. Yes, cooperation is a good thing, but pure cooperation breeds complacency, creates delays, and does not drive innovation as well as competition can. Competition may not be driven by dollars like the private industry is, but great accomplishments inspire a nation like no war, TV program, or honorary government holiday can.

China and India, I wholeheartedly welcome to the global space race and congratulate you on your recent, amazing successes. Don't be afraid to make us afraid. The more you push yourselves, the more you'll push our politicians and citizens to remain one step ahead of you. If you pass us, it will only energize us more, which in turn will energize your populations. To my personal friends who I have met through the International Space University and the International Astronautical Congress, I wish you the absolute best of luck, and I promise I will do everything in my power to beat you. Let's make it the best competition in the history of mankind so that even the losers can be proud of what they accomplished.

Ben Corbin

US Citizen and Space Enthusiast



ExplorerFish.com

SPACE CONFERENCES



Space Exploration Alliance

Space Exploration Alliance Legislative Blitz
February 22, 2009 - Tuesday, February 24, 2009
Washington, DC

The Space Exploration Alliance is gearing up for its next "Legislative Blitz" in Washington, D.C. This event will be held from Sunday, February 22, 2009 through Tuesday, February 24, 2009. As in past Blitzes, a training session will be held on Sunday afternoon, with our meetings with congressional offices scheduled on Monday and Tuesday. The overriding theme of our February 2009 visit to Capitol Hill will be that space must be a national priority.



25th National Space Symposium
Mar 30, 2009 - Apr 02, 2009
Colorado Springs, Colorado United States

The National Space Symposium is the premier industry event and the must attend opportunity for key leaders from all sectors of the space community. The event will draw the most senior executive leadership from national and international government space agencies, the commercial space and satellite sector, research universities and academia, space tourism companies, the Department of Defense, military space commands, and many more.



Space Access '09
April 2nd - April 4th 2009
Best Western Grace Inn in Phoenix, Arizona

Space Access '09, the Space Access Societies upcoming 17th annual conference on the technology, politics, and business of radically cheaper access to space, will take place Thursday April 2nd through Saturday April 4th 2009 at the Best Western Grace Inn in Phoenix, Arizona. The conference attendee hotel room rate is \$99 a night tax included, single or double, and comes with full buffet breakfast. For reservations, call 1-800-843-6010 and ask for the Space Access Conference 2009 room block. Conference advance registration is \$100, mail checks along with your name, email, and organization (if any) for your badge to: Space Access '09, 5555 N 7th St #134-348, Phoenix AZ 85014.



SEDS Northeast Regional Conference
April 4th, 2009
MIT, Boston, MA

SEDS USA is proud to host its first ever Northeast Regional conference at MIT. This event will be a great networking event for all SEDS chapters in the Northeast, and is free for all SEDS members. To find out more information or to register, please visit sed.s.mit.edu/conference/



ISDC 2009
May 28-31, 2009
Omni Orlando Resort at ChampionsGate, Florida

The International Space Development Conference (ISDC) is the annual conference for the National Space Society and has grown into the largest public space conference of the year. It is a national gathering for space-interested leaders and citizens to connect, re-energize and make plans for the future. For more info, please visit www.isdc2009.org/

CHAPTER UPDATES

University of Virginia SEDS

Here's the more-or-less-monthly chapter report for UVA-SEDS

Notable events:

- The Public Night at Fan Mountain Observatory was a tremendous success, despite less-than-ideal weather. We plan to volunteer again at their next public night in the spring.
 - UVA-SEDS has provided at least three or four undergrad members with connections to graduate level or higher research projects
 - Attended via conference call, SpaceVision '08 CoC
- Otherwise, we're winding down right now in anticipation of our upcoming winterbreak. More info will be posted in December/January, once we get to together and start planning for next semester

by Thomson Mason Fisher; November 28th, 2008



University of Colorado at Boulder SEDS

We have had several very successful events this semester. Our final even will happen tomorrow night. We will be holding and "Intern Night." This even is a repeat of a previous CUSEDSED event. We have scheduled several speakers to come in and discuss their intern/CO-OP experience. The speakers will cover what they did, what they thought, and include contact information for those who would also like to pursue the same career area. After winter break CUSEDSED will make a transition in President role from Robert Lossing who will be graduating in December to Kristian Hahn. The first order of business when returning to school will be Uri's Night planning and preparation.

By Kristian Hahn; December 8th, 2008



Past events and activities since September 16, 2008:

1. Recruited new members at the Caltech Club Fair/Carnival- September 27, 2008
2. On campus observing night- October 26, 2008

Future events and activities for fall 2008 - winter 2009:

1. Jet Propulsion Laboratory Private Tour- Winter 2009
2. On campus observing night- Mid February
3. Joshua Tree Observing Trip- Mid March (Spring Break)
4. Palomar Trip- May

By Julie Huang; December 16th, 2008



Iowa State Space Society

This past semester our chapter has invited professors to share their research at our meetings, observed stars at a near-by observatory as well as having bi-monthly star-gazing events, sent members to the SEDS national conference, and got members level 1 rocket certification.

Next semester we plan to have more star-gazing events if the weather ever warms up, continue to involve members in the organization, and launch more rockets.

By bjfx; December 17th, 2008

CHAPTER UPDATES

UCLA SEDS

We have continued observing the sky every Wednesday (except the ones that are happening now, because it's winter break). We have also submitted a rough commercial for the "NASA Means Business" competition. We are waiting for a reply on whether we made it into the top 4, and whether we should make a final polished one.

Our pumpkin carving night was a success. Our trip to Palomar Observatory was very exciting, and we got a tour of their largest telescope.

During our last meeting, We had a competition of building gingerbread houses. Some were pretty imposing and complicated and very tasty.

By George Khaburzaniya; December 17th, 2008

TAMU SEDS

This semester, our chapter spent a lot of our focus on hosting the SpaceVision conference. SpaceVision went smoothly and we had a lot of fun meeting everyone!

Besides that, we're also leading a team for the Moon Tasks competition from Langley. We've met a few times now, and it'll really kick up in the spring.

That's about it! We'll be doing a couple more interesting things in the spring, so stay tuned!

By Keri Bean; December 17th, 2008



University of Arizona SEDS

SpaceVision 2008:

In November, we brought 15 members (and our 18" Dobsonian Telescope) to Texas for SpaceVision 2008. Before the conference, we received a tour of Johnson Space Center.

SpaceVision 2009:

At this year's conference, UASEDS was chosen to host SpaceVision 2009. We have already had several planning meetings and have secured discounted hotel rates at a local hotel.

Outreach:

With our telescope completed, we have been able to participate in many outreach events. One such event was a two day special viewing of the Jupiter/ Venus conjunction held by Flandrau Science Center.

Rockoon Project:

After attending SpaceVision, several members became interested in starting up the Rockoon project. We have had two meetings with good attendance and are currently researching the subject. We hope to start in full force this January.

By Kyle Stephens; December 18th 2008

CHAPTER UPDATES

Olin SEDS

Observation Nights: We've used our telescope to host several successful observation nights throughout the semester.

Model Rockets: We used our budget to buy model rocket parts and held an event to build rockets and a launchpad. We had a modest but enthusiastic turnout and we're looking forward to launching at the beginning of next semester.

Other ideas for events include a space movie night, and possibly a camping trip away from the lights of Boston for a better observation night.



University at Buffalo SEDS

Our Chapter sent 5 members from the University at Buffalo to the SpaceVision '08 conference, where they were able to meet many individuals who are influential in the space community. While in attendance, UB-SEDS was given the Best New Chapter Award. Members of our chapter, especially those who attended SpaceVision 2008, are looking forward to next year's conference. We are also planning on sending members to the ASX Toronto event in January.

We will also be holding a Yuri's Night meeting in order to plan and prepare for UB's upcoming Yuri's Night Celebration in April 2009.

We are also looking into freeing up some lab space in a building on campus which is to be utilized for many of our clubs project groups, including the construction of a BattleBot for UB's E-week.

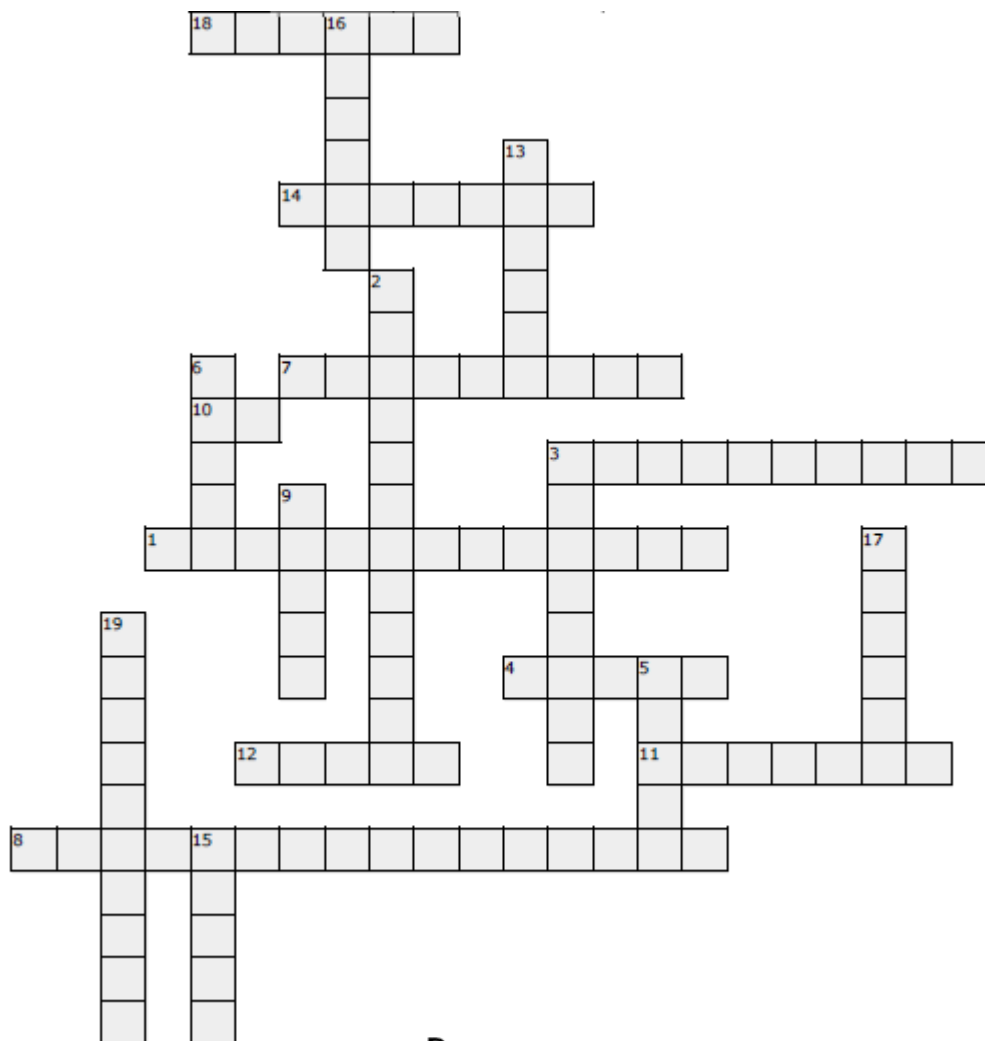
UBSEDS is also working on developing fundraising ideas in order to generate revenue. We are also in the midst of creating a logo for SEDS clothing and other merchandise, to be displayed at various SEDS events and functions, or in general, to promote a further knowledge of the SEDS organization to non-members.

Finally, our president, was able to compile a list of past SEDS members for the National SEDS Database.

Our meeting times for the Spring '09 Semester will be altered to accommodate as many members schedules as possible, and therefore will be tentatively changed from Mondays at 5 pm, to Thursdays at 6:30 pm.

By Nick Day; January 7th, 2009





Across:

1. Meteors are commonly know as _____.
4. One day on Uranus is seventeen earth _____.
3. Like Jupiter, Neptune also has a big spot in it's _____ where a storm is taking place.
7. Astroid that hits the surface of a planet or moon after traveling throught space
8. The great red spot on Jupiter's 'Great Red Spot' rotates in a _____ direction.
10. This moon on Jupiter has active volcanoes that spew sulfur.
11. This planet is named after the Roman god of the sea
12. This used to be thought of as a planet, but is now classified as a dwarf planet.
14. This is the largest planet in the solar system
18. This planets rings are the most visual rings of all the planets

Down:

2. Reigon between Mars and Jupiter where most asteroids orbit the sun
3. Rocky object, smaller than a planet, that orbits a star
5. Uranus has at least twenty-two moons and Eleven _____.
6. Saturn is the _____ planet from the sun.
9. Ball of ice, rock, frozen gases, and dust that orbits the sun
13. Brief streak of light seen when an astroid enters the earth's atmoshere and burns up
15. The largest moon on Saturn is _____.
16. This planet rotates on its side.
17. The diameter of Jupiter is _____ times larger than earth's.
19. Neptune takes 164 years to complete one _____.



Ares 1-X Launch Abort System

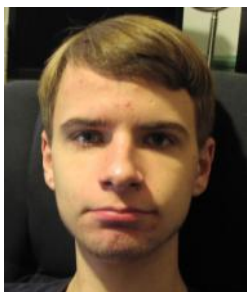
Courtesy Nasa.gov

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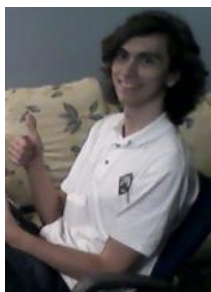
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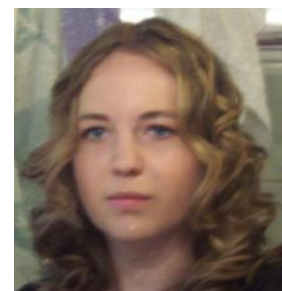
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SEDS Mission Statement:

SEDS, or Students for the Exploration and Development of Space, is an independent, student-based organization which promotes the exploration and development of space. SEDS pursues this mission by educating people about the benefits of space, by supporting a network of interested students, by providing an opportunity for members to develop their leadership skills, and inspiring people through our involvement in space-related projects. SEDS believes in a space-faring civilization and that focusing the enthusiasm of young people is the key to our future in space.

History of SEDS:

Students for the Exploration and Development of Space was founded in 1980 at MIT and Princeton and consists of an international group of high school, undergraduate, and graduate students from a diverse range of educational backgrounds who are working to promote space as a whole. SEDS is a chapter based organization with chapters throughout the United States, Canada, United Kingdom, Asia, Latin America, and the Middle East. The permanent National Headquarters for SEDS-USA resides at MIT. Each chapter is fairly independent and coordinates activities and projects in its own area.

What do SEDS members do?

SEDS members are people interested in doing as much as they can to promote space exploration and development. The first step in this continual process is learning. SEDS provides an excellent environment in which to obtain access to many sources of information including speakers, tours, films, discussion groups & daily NASA updates. Astronomical observing trips and tours of local space facilities also play a significant role in the life of many SEDS members.

SEDS members often take the knowledge they have gained and use it to influence the future of the space program. Students at several chapters have played major roles in organizing large conferences and have established important contacts with members of the space community. Others have helped increase public awareness of the benefits of space exploration by offering presentations to local primary and secondary schools as well as universities. All chapters keep in contact with each other through on-line computer networks.

Finally, SEDS provides an environment in which people of common interests can relax and freely discuss issues important to them.

What can SEDS do for you?

SEDS can provide an organized pathway for you to begin space related projects and give you a chance to break away from the usual classwork. You can also use SEDS as a stepping stone to a space-related career. Being actively involved in SEDS can put you in touch with many members of the space, technology, and education community and will allow you to develop the experience necessary to take leadership roles in your future career, whatever that may be.

For more information on SEDS, or to join/start a new chapter, go to www.seds.org.



FIND A CHAPTER

Active SEDS-USA Chapters

California Institute of Technology SEDS
Embry-Riddle Future Space Explorers and Developers Society
Florida Institute of Technology SEDS
George Washington Space Society
Illinois Space Society
Iowa State Space Society
Massachusetts Institute of Technology SEDS
Olin College SEDS
Purdue SEDS
Texas A&M SEDS
UC Los Angeles SEDS
UC San Diego SEDS
University of Arizona SEDS
University at Buffalo SEDS
University of Central Florida SEDS
University of Chicago SEDS
University of Colorado at Boulder SEDS
University of Michigan SEDS
University of North Carolina- Chapel Hill SEDS
University of Virginia SEDS
Utah State University SEDS

Or Start Your Own Chapter! Go to seds.org/join.php for more information.

SEDS