

Southeastern Space Supporter

Newsletter of HAL5 – the Huntsville Alabama L5 Society chapter of the National Space Society

Volume 7, Number 6 — November–December 1998

FIRST WORD

NSS Names New President

(NSS Press Release, November 30, 1998)

(Washington, DC) -- November 30 -- Daniel C. Brandenstein will become the next President of the National Space Society in December, succeeding Charles Walker who has served in that capacity for the last ten years.

A native of Watertown, Wisconsin, Brandenstein graduated from the University of Wisconsin at River Falls. He is currently Executive Vice President and Program Manager of Kistler Aerospace Corporation, Kirkland, Washington.

A veteran of four space flights, he has logged over 789 hours in space. Brandenstein served as Chief of the Astronaut Office from April 1987 through September 1992. He retired from NASA and the Navy after receiving two NASA distinguished Service Medals, two NASA Outstanding Leadership Medals, four NASA Space Flight Medals and numerous military

honors. He has received the SETP Iven C. Kincheloe Award (1992), and the AIAA Haley Space Flight Award (1993).

Brandenstein was pilot for STS-8 (August 30-September 5, 1983) the third flight for the orbiter Challenger and the first night launch and landing. During this mission the crew tested the Canadian-built Remote Manipulator System (RMS). During the seven day

the crew conducted a record four EVAs (space walks) to retrieve, repair and deploy the International Telecommunications Satellite (INTELSAT). The crew also evaluated techniques that would be used in the assembly of the International Space Station.

The National Space Society, founded in 1974, is an independent, nonprofit space advocacy organization headquartered in



HAL5 Program Night

Tuesday, December 29, 1998
7 to 8:30 p.m. (with social afterwards)
Madison City Hall Council Chambers
100 Hughes Road, Madison, Alabama

“The Roton — Launch Vehicle or Space Helicopter?”

Guest speaker will be Dan DeLong, Engineer with Rotary Rocket Company.

All HAL5 and NSS members are encouraged to attend, and to bring interested friends and co-workers. Open to the public. Free admission.

mission, STS-51G (June 17-24, 1985), he commanded the crew aboard Discovery deploying four satellites and retrieving SPARTAN.

On Brandenstein's third shuttle flight, the longest shuttle mission to that point, STS-32 (January 9-20, 1990), crew members retrieved the 21,400-pound Long Duration Exposure Facility (LDEF) and filmed parts of the IMAX movie “Blue Planet.”

Brandenstein commanded STS-49 (May 7-16, 1992) the maiden flight of space shuttle Endeavour. During this mission

Washington, DC. Its 23,000 members and 75 chapters around the world actively promote a spacefaring civilization. Information on NSS and space exploration is available at <<http://www.nss.org>>. ☆

Ask Astronaut David Brandenstein

The NSS’ “Ask An Astronaut” Web site at URL <http://www.askanastronaut.com/> is currently featuring our NSS President David Brandenstein. Visit the site and ask him a question about his space travels or about his view on the future of the National Space Society. ☆

Huntsville Alabama L5 Society

President — Greg Allison
Day: 544-4440, Eve: 859-5538

Vice-President — Gladys Young
Day: 852-0561, Eve: 852-0561

Treasurer — Ronnie Lajoie
Day: 971-3055, Eve: 721-1083

Secretary — Clay Sawyer
Day: 971-6408, Eve: 539-3889

Membership — Philomena Grodzka
Day: 536-8638, Eve: 536-8638

Communications — James Hopkins
Day: 971-9362, Eve: 726-0056

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Volume 7, Number 6
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The *Southeastern Space Supporter* is a bimonthly publication of the Huntsville Alabama L5 Society (HAL5), a not-for-profit 501(c)(3) organization devoted to the goal of seeing everyday people living in thriving communities beyond the Earth.

Any opinions expressed in this newsletter are those of the authors or of the Editor, and, unless expressly so stated, are not necessarily those of HAL5 or the NSS.

Visit the HAL5 Web Page on Internet via:

<http://advicom.net/~hal5/>

HAL5 encourages its members to speak out on space-related issues, and welcome submissions of both fact and opinion articles of interest to HAL5 members.

Submit letters or articles to: Ronnie Lajoie
162 Kirby Lane, Madison, AL 35757
Day phone/message: 205-971-3055
Night/Weekend phone: 205-721-1083
FAX number: 205-971-3333
Electronic mail address: hal5@advicom.net

Deadline for submittal is the last day of the following months: February, April, June, August, October, and December.

Preferred format for plain text is ASCII (text with graphics is *MS Word* or *WordPerfect*) either sent by E-mail or on a PC diskette. Also acceptable are letters and articles sent by mail or faxed; however, the more retyping required, the less likely the acceptance. HAL5 is not responsible for receipt of mailed submissions; none will be returned unless sent with a SASE. Hand-delivered diskettes will be hand-returned. No compensation is paid for submissions.

HAL5 Web Site Status

(by Ron Lajoie, HAL5 Web Site Manager)

One of the main reasons I decided not to “go home” for Christmas was so that I could catch up on a lot of the NSS duties I have left sit idle for six months (while addressing work, HAL5, HALO, and HARC business). I also have a lot of work associated with the latter groups as well. The Web site is a good example.

Have You Used YOUR Web Site?

One group of questions I forgot to ask on this year’s HAL5 survey was about the HAL5 Web site. How many of you use it on a regular basis? How many of you have visited it at least once? How many of you none? How many of you know that the URL is printed on page 2 of every HAL5 newsletter (in the sidebar to the left)? How many of you have a computer and access the World Wide Web? What do you think of our Web site? What would you like it to contain? Et cetera.

What’s On the Web Site?

The HAL5 Web site contains a history of our organization and its activities, including a very detailed account of Project HALO, including some photos. (Disk space quota limitations is keeping me from adding more. That and time ...)

The HAL5 Web site contains a Calendar of Events with links, something that cannot be done with our newsletter. It also contains short biographies on the HAL5 officers and committee chairs, and core HALO team members, also with links. It also contains a record of all donations made to HAL5 and HALO.

The HAL5 Web site also hosts a well organized page of “Valid Space-Related Links” that is graphics-free so that you can download it and get to where you want to go — FAST! Every link is checked monthly and updated or deleted as required. (You would be amazed how often even government and industry links change.) New links are added as space allows as the links are deemed appropriate.

The HAL5 Home Page also contains some links to space organizations and other sites of interest in the Huntsville area. These links are also checked and updated on a regular basis. If your personal bookmarks come up empty, check the HAL5 site before searching blindly through the Internet.

The HAL5 Web site also contains back issues to our newsletter, in PDF format, as well as our membership form, also in PDF format. Bottom line, if you or anyone you know needs information about our society, please refer them to our Web site.

New Features for the Web Site

The NSS Chapters’ Assembly Web site is currently a branch off of our HAL5 Web site. NSS chapters are in need of resources and one of those resources is information. Email is one method and many chapters and space activists take advantage of NSS-Discuss, an email list. But email has its problems. Everyone gets a copy of every message, whether or not it was intended for them, and the messages do not get archived.

Internet newsgroups, like **sci.space.tech**, are a much better way of sharing information. Messages not only get archived, but are also organized so that responses to specific messages are separated. Viewers can download and read only those that look interesting and they can email and/or post their reply.

The next best thing to newsgroups is available as freeware. It is a simple Perl script that can run on anyone Web’s site. It creates your own personal Web forum, by which any person can read and respond. I am in the process of installing several Web forums so that NSS chapters can share information. I will also be adding a Project HALO Web forum to the HAL5 Web site.

Another free simple Perl script let’s one search their own Web site. I will be installing local “search engines” on both the HAL5 and NSS Chapters’ Assembly sites. Both search engines and Web forums will be running by New Year’s.

PROJECT HALO NEWS

HALO to Regroup in 1999

(by Ronnie Lajoie, HALO Team member)

After the New Year, the Project HALO team will regroup and assess what they want to do, and form a plan of how to get there. Before we can refly the SL-2 rockoon mission, we need money. We created a set of briefing charts for the NSS Board of Governors, and are still awaiting their feedback. Meanwhile, we will be adapting that briefing so that we can approach local businesses. If NSS does not want the honor of sending the first amateur rocket into space, perhaps we can persuade the businesses of the "Rocket" City of Huntsville. ☆

SpaceDev Acquires Hybrid Rocket Technology

(SpaceDev Press Release, August 13, 1998)

SpaceDev, the world's first commercial space exploration and development company, announced today that it has acquired exclusive rights to intellectual property including the three patents originally issued to American Rocket Company (Amroc) for their hybrid rocket motor technology.

In addition, SpaceDev has acquired exclusive possession of and access to a large quantity of Amroc engineering documents, plans, designs, test results, manufacturing data, and other materials related to the rocket motors and Amroc launch vehicles.

"We believe this technology could be useful in a wide variety of commercial launch vehicle applications," said Jim Benson, president and chairman of SpaceDev. "Hybrid rocket technology is relatively simple, environmentally cleaner than most propulsion systems, non-explosive and less expensive to manufacture. Furthermore, it is easily transported, throttleable, restartable, and scalable."

Benson noted that hybrid rocket technology has many potential markets,

some of which could be internally useful to SpaceDev and its subsidiaries in the future, and some of which could become products for sale to commercial and government customers.

Hybrid rocket motor products could include: small and large boosters for use in sounding rocket applications, university class satellite launches and LEO constellation launches; boosters for sale as main propulsion systems for external customers; strap-ons for expendable and reusable launch vehicles; smaller specialized motors for use in upper stages; and for complete launch systems.



AMROC's first hybrid rocket failed to leave the launch pad when the LOX valve froze.

Integrated Space Systems (ISS), a wholly owned subsidiary of SpaceDev, spent several months studying and analyzing original Amroc engineering and test result documents. The documents were generated from years of Amroc testing and improvements, and rocket motor test firings. ISS engineers concluded that Amroc had done excellent engineering, and had brought the technology close to commercial viability.

"Hybrid rockets combine a liquid oxidizer and solid fuel (therefore hybrid) into a rocket motor," said Phil Smith, Chief Operating Officer of SpaceDev. "Because rocket motors or engines form a large part of the total cost of any launch vehicle, controlling this fundamental underlying technology could be key to developing low cost launch systems."

In the agreement, SpaceDev is granted the exclusive world wide license rights for the technology for a minimum of five years. If SpaceDev is successful in developing a commercial market for the hybrid rocket technology, it will have the rights to purchase the technology over the next five years in exchange for discounted warrants for the purchase of SpaceDev common stock. The warrants would be issued in relation to sales of the rocket technology and the maximum dilution will not exceed three million shares. If SpaceDev is not successful in developing a commercial market for the technology, the company will return the technology and have no further obligation for the issuance of additional warrants.

Mr. Benson added, "The agreement is extremely fair for both SpaceDev and the owner of the technology as it allows for both to share in the success of the technology as may be further developed and marketed by SpaceDev."

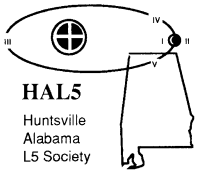
SpaceDev intends to launch the first privately financed spacecraft to land on another planetary body. SpaceDev is offering for sale rides for scientific instruments to governments and companies to transport their instruments and experiments through deep space to a near Earth asteroid. SpaceDev intends to sell the data acquired by its instruments as commercial products. Colorado-based SpaceDev has offices in San Diego, CA and Washington, DC. ☆

Huntsville Alabama L5 Society (HAL5)

your local chapter of the

National Space Society

presents



The Roton Launch Vehicle or Space Helicopter?

a **free** public presentation by

Mr. Dan DeLong

Space Systems Engineer, Rotary Rocket Company

Tuesday, December 29, 1998

7:00 pm to 8:30 pm in the

Madison Municipal Complex Council Chambers

100 Hughes Road (one block south of Old Madison Pike), Madison

The public is invited. Admission is **FREE**. A social at TBD will follow the meeting.
For more information: call Ronnie Lajoie at 256-721-1083 or email: hal5@advicom.net

HAL5 CALENDAR OF MEETINGS AND EVENTS

December 1998

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 Project HALO Tech. Meeting Noon at Ponds	2 Pioneer 11 Jupiter flyby, 1974	3 ☐ HAL5 Executive Comm. Meeting Noon at Ponds	4	5
6	7 Galileo arrives at Jupiter, 1995	8 Project HALO Tech. Meeting Noon at Ponds	9	10 Ⓞ☾ HAL5 Executive Comm. Meeting Noon at Ponds	11	12
13 Hanukkah, Geminid meteors	14 Hanukkah, Geminid meteors	15 Project HALO Tech. Meeting Noon at Ponds	16	17 HAL5 Executive Comm. Meeting Noon at Ponds	18 ☾	19
20	21 Winter solstice 7:56 PM CST	22 No HALO Meeting	23 No HAL5 Program Night	24 No HAL5 Meeting	25 Christmas Day	26 ☾Ⓞ
27	28	29 HAL5 Program "Roton" 7 pm in Madison	30	31 New Year's Eve		

January 1999

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
SPECIAL December HAL5 Program Night "The Roton: Launch Vehicle or Space Helicopter?" by Dan DeLong, Space Systems Engineer with Rotary Rocket Company 7-9 PM, Tuesday, December 29, in Madison City Hall Council Chambers, 100 Hughes Rd.					1	2 ☐
3	4	5 Project HALO Tech. Meeting Noon at Ponds	6	7 HAL5 Executive Comm. Meeting Noon at Ponds	8	9 Ⓞ☾
10	11	12 Project HALO Tech. Meeting Noon at Ponds	13	14 HAL5 Executive Comm. Meeting Noon at Ponds	15	16
17 ☾	18	19 Project HALO Tech. Meeting Noon at Ponds	20	21 HAL5 Executive Comm. Meeting Noon at Ponds	22	23
24 ⓄⓄ	25	26 Project HALO Tech. Meeting Noon at Ponds	27 HAL5 Program "Project Artemis" 7 pm at Library	28 HAL5 Executive Comm. Meeting Noon at Ponds	29	30
31 ☐	January HAL5 Program Night "Project Artemis: The First Private Base on the Moon!" by Boise Pearson, President of the Artemis Society (and Engineer with NASA Marshall) 7-9 PM, Wednesday, January 27, at Huntsville Public Library Auditorium, 145 Monroe Street, Huntsville					

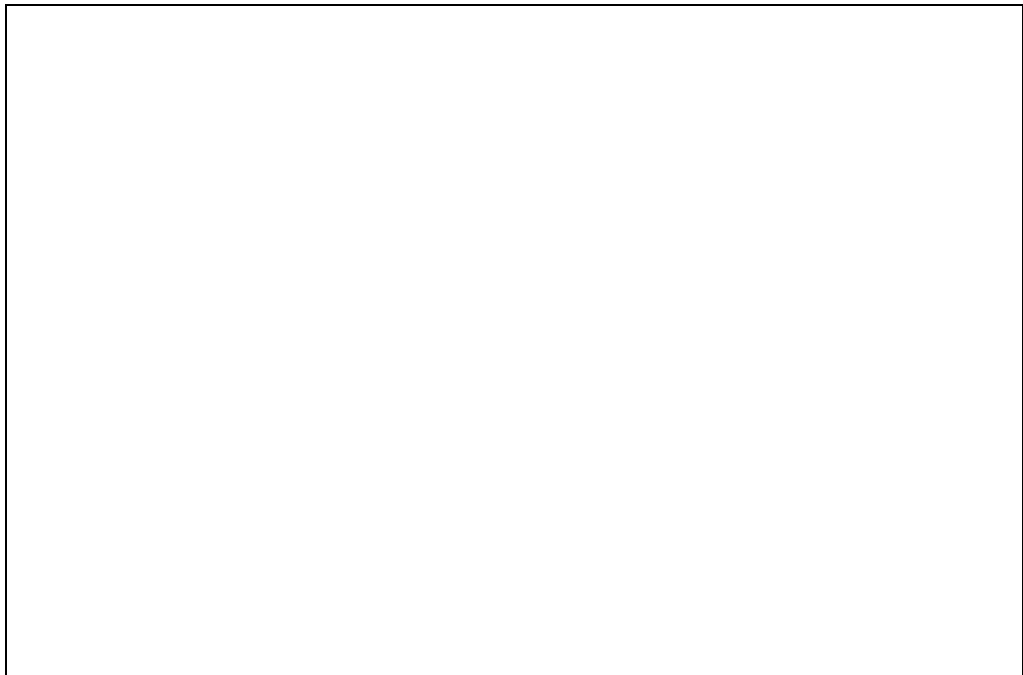
January is the Month to Renew Your HAL5 Membership

HAL5 Hosts its First Christmas Party in Years

(by Ronnie Lajoie, party organizer)

With HALO on hiatus, and with turnouts at our post-program “Shoney’s socials” taking a dip, the HAL5 Executive Committee decided to do something about it. We needed a different type of social event to bring the membership together again. We also wanted a place where we could pass out “Certificates of Appreciation” for all the hard-working members of the Project HALO team.

The HALO SL-1 celebration held at the Holiday Inn in August 1997 was a huge success, but was very expensive. Gladys Young offered her home to serve as the site for the Christmas party, and the HAL5 Executive Committee quickly agreed and allocated a small budget to cover a meat tray, drinks, plates, and utensils. After much discussion, especially about avoiding weekends, we settled on the date of Thursday night, December 10.



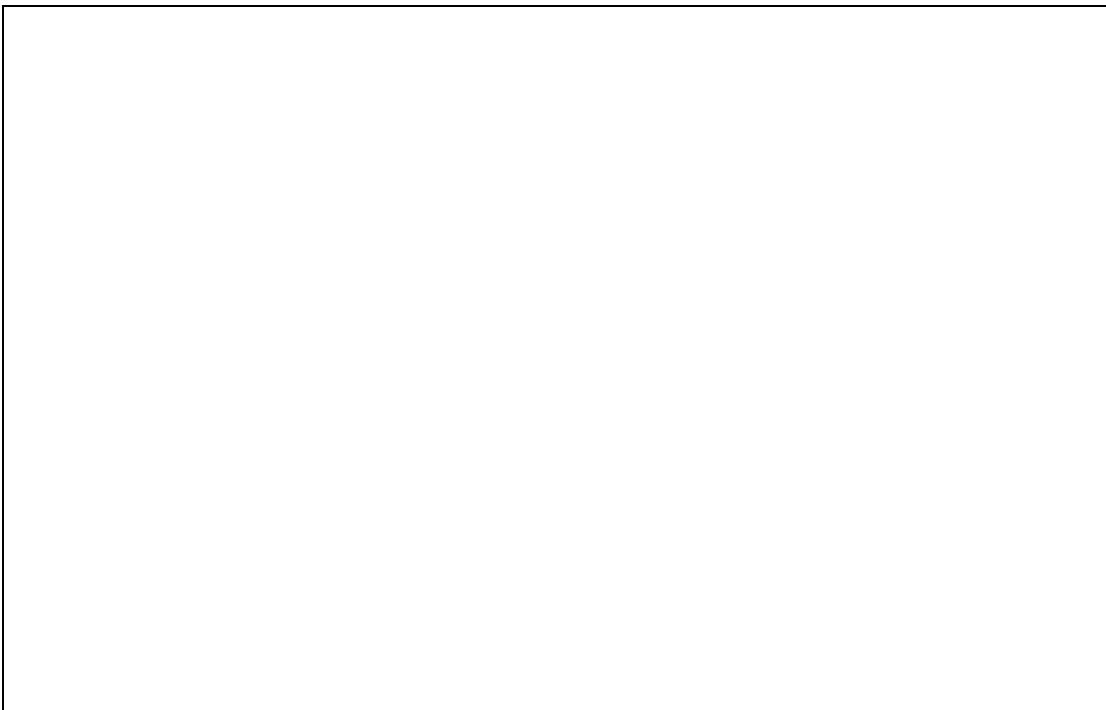
Lydia Allison and Melanie Hazelrig watch over Greg and Lydia’s daughter Angelica, while sitting among the desserts in the parlor of the Young’s beautiful home.

Postcard invitations went out and all was set in motion. Then we started to get email announcing that Robert Zubrin, founder of the new Mars Society, was coming to town and was scheduled to speak — Thursday night, December 10 — the same day and time as our event!

“Houston, we have a problem!”

I quickly sent out an Email alerting all members, giving them a short time to vote whether or not to move the Christmas party to another date. Almost everyone voted to keep the party and to not attend the Zubrin talk. Several people were quite adamant about it, including HAL5 President Greg Allison and Gordon Woodcock (who could not attend the party anyway). Only one person opted to go to the talk instead of the Christmas party.

After too many months without rain, Mother Nature seemed determined to make up North Alabama’s rain deficit for the year in December. The day of Thursday, December 10, was no exception. A steady rain fell all day, but temperatures were quite mild.



Bill Brown smiles after enjoying his Christmas feast. Greg Allison and Gladys Young finally get turn to eat, while Judy and Mark Wells sit (like many of us), too stuffed to move.

Gene and Gladys Young have a large home located off Winchester Drive, which is in the process of being converted from a two-lane highway into a four-lane highway. As fate would have it, the construction crew had quit for the night just at the entrance to the Young's street, Eclectic Way (named after their son's business). Party-goers driving from Memorial Parkway were greeted with a potential five-foot drop rather than an easy left turn. Albeit somewhat of an obstacle course, it was possible to drive past the road, turn 180 degrees, maneuver through road block signs, and turn right onto the street.

The Young's two driveways and ample-wide street provided plenty of room for easy parking for the 26 people who attended. The scheduled time to start was 6:00 PM. Myself, per usual, was an hour late, not only because of work duties, but also due to the need to print out the Certificates of Appreciation. But this time, I arrived before Greg Allison, who was unfortunately one of the last to arrive (also due to work duties).

Most people were already waiting when I showed up, with bags of beverages and ice, as well as a dessert and some spare HAL5 paper plates and plastic utensils. Judy Wells was helping Gladys Young set the dinner table (which clearly did not have enough room for everyone — this was definitely going to be a buffet-style feast).

No HAL5 Awards

Needless to say, with both Greg and I absent, Gladys had her hands full playing hostess to the house full of guests. I put aside the Certificates, knowing that with Greg absent, there would be little chance of getting them signed in time to hand out to the recipients. After the party, we decided to mail them out instead. Oh well, so much for this year's awards presentations.

A House Full of Guests

After some introductions, Gladys had me say a few words to our guests, who by now were getting hungry. Tim Pickens, who came with his wife Melanie and daughter Sarah, was not feeling well and had to leave early, even before we started to eat. Tim passed the virtual "lampshade" baton to me to keep our guests entertained in his absence. Before they left, we exchanged desserts so that we could have some of Melanie's delicious chocolate chip cookies. Ilmar Luik also had to leave before dinner.

Guests who stayed for dinner included Mark and Judy Wells, Melanie and Terry Hazelrig, Steve Mustaikis and Carrie Alderfer, Clay Sawyer and friend, John Bossard and wife, Philomena Grodzka and Garrett Roberts, Bill Brown, Bryan Jones, Amy Herring, Peter Ewing, Greg Allison, his wife Lydia, and daughter. Who did I forget?

At the last minute, Bill and Gwen Axenroth said they could not attend. Bill Brown's friend Violet and James Hopkins also could not attend. Due to other conflicts, Al Wright and Wade Dorland sent their apologies. Due to an illness of her mother Janis, Chris and Herman Pickens could not attend. Janis is now back at home recovering. We wish her good health in 1999.

Let the Feasting Commence!

The feast then began — and what a feast! Turkey, mashed potatoes, gravy, stuffing, corn, green beans, a broccoli-rice casserole, muffins, and macaroni & cheese, were just some of the many delicacies to choose from, plus a fruit tray and vegetable tray. Man, we stuffed ourselves silly! Many of us made the mistake of going for seconds, only to find that we *could not move* afterwards! But it was all so delicious! Many of these dishes were prepared by Gladys or her daughter, and more were brought by guests, along with desserts.

Did I say dessert?!?! Pumpkin pie, pecan pie, cheese cake, chocolate chip cookies, brownies, cupcakes, candies, and cake. If this sounds like the list of goodies recited by the Grinch who stole Christmas — you're right! Since we were so stuffed with dinner, few of us had room left for dessert — but that did not stop many of us from trying!

+ "The Party's Over ..." +

After relaxing and conversing, it was time to depart. Plates of food and dessert accompanied many of us as we left for our respective homes. I wish all of you a Merry Christmas and a very Happy New Year! Ad Astra! ☆



Peter Ewing relaxes in the Young's family room, while Clay Sawyer converses with Terry Hazelrig. Meanwhile, Amy Herring, Carrie Alderfer, and a friend of Clay's converse.

HAL5 Membership Report

The following is a list of additions to the current paid membership of HAL5, which includes 41 renewals and 15 new members, for a total of 56, plus 5 newsletter subscriptions. Welcome to all our new and renewed members!

John Bossard (N)

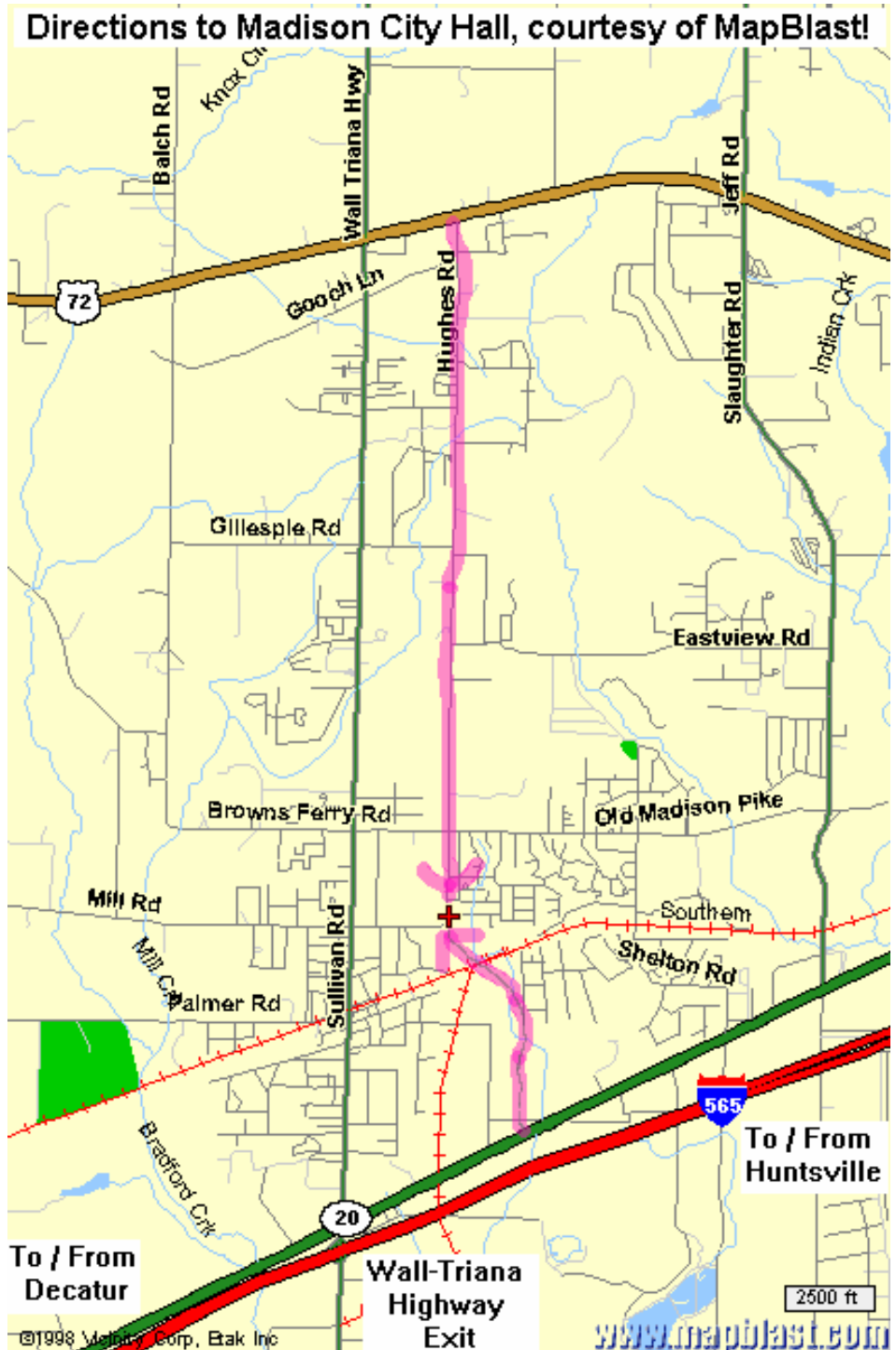
(N) - New Member

John Bossard is part-owner of CFD Research Corporation of Huntsville. His company has designed an air turbo rocket (ATR), a cross between a turbojet engine and a rocket engine, that can potentially fly higher and faster than both turbojet or ramjet powered aircraft.

Last year's membership peaked at 82. Although we did not beat that record this year, 56 members is our second highest total in our 13 year history. HAL5 is still a very strong NSS chapter, and continues to be among the most important chapters in the National Space Society. Ad Astra per HAL5! ☆

It's Official! Greg Elected VP

The Board of Directors voting for NSS officers is over, and Greg Allison has been officially elected NSS Vice President for Chapter Affairs. Greg's first duty was to submit a plan for the future of NSS chapters at the NSS Executive Committee meeting in early December. That plan will soon be made available on the NSS Chapters' Assembly Web site. ☆



Special Announcement
HAL5 December Program Night on
“The Roton Launch Vehicle”
Tuesday, December 29, 7–9 pm at
Madison City Hall, 100 Hughes Rd

Huntsville Alabama L5 Society
 1019-A Old Monrovia Rd, Suite 168
 Huntsville, AL 35806
 ADDRESS CORRECTION REQUESTED

Place
 First Class
 Stamp
 Here