



## 2011 HUNTSVILLE ALABAMA L5 SOCIETY (HAL5) ANNUAL REPORT TO THE MEMBERSHIP

Founded in 1983, the Huntsville Alabama L5 Society (HAL5) is a not-for-profit 501(c)(3) organization. We are the Huntsville chapter of the National Space Society (NSS), a grassroots, educational organization that advocates for the exploration and settlement of space. We are a mix of enthusiasts and professionals who share the belief that space development can improve our world with immeasurable benefits in the areas of education, energy, environment, industry, resources, and ultimately room for humanity to grow. We believe that by educating and working with the public, government, and industry, we can speed up the day when routine, safe, and affordable space travel is a reality.

In 2011, we hosted a very successful International Space Development Conference (ISDC), continued our long running monthly public lectures, participation at the annual Von Braun Astronomy Society (VBAS) Astronomy Day, and continued with our Project High Altitude Lift-Off (HALO) educational amateur rocketry program. To top it off, at ISDC 2011, HAL5 was awarded the NSS Chapter of the Year for 2010 and had over 25 HAL5 members in attendance to accept the award. We were last awarded the Chapter of the Year at ISDC 2009 for 2008.

### Administrative Activities

The HAL5 Executive Committee met at 6 p.m. on the second Thursdays of every month. The HAL5 website is used to announce HAL5 and NSS events and news. HAL5 has a presence on Facebook as well as in selected local print media outlets and local online event calendars. Emails are sent to members and guests who sign up at the monthly programs. Selected event announcement postcards are sent out to those with no current email address. The annual membership dues are \$16 for regular and renewal members and \$10 for students, seniors and the unemployed. New member rate is prorated based on the month of joining. We ended 2011 with 45 members.

### Monthly Programs, Outreach, and Special Events

HAL5 holds public lectures or membership meetings on the first Thursday of every month, at the Huntsville–Madison County Main Public Library. Socials are typically held after each monthly program at a local restaurant. As a thank you, speaker and special guest meals are paid for by HAL5.

We started off 2011 with a lecture by Paul O. Wieland, P.E. on “Converging on a Space Program for the 21<sup>st</sup> Century” based on his book *Crossing the Threshold: Advancing into Space to Benefit the Earth*. In February, we held a short status briefing on American in Orbit 50’s status, followed by a membership meeting. In March, our long time supporter, Tim Pickens, gave an update of Rocket City Space Pioneers’ pursuit to win the Google Lunar X-Prize. In April, Mr. Al Reisz gave a preview of his ISDC talk on “Benefits of High Velocity and Long Life Propulsion System.” Due to ISDC 2011 planning, HAL5 was not able to fully support Yuri’s Night Huntsville 2011. However, several members attended the event.



*HAL5 2011 Monthly Program Flyers. See our website at [www.HAL5.org](http://www.HAL5.org) for Larger Sizes and Past Flyers*

A sneak preview of ISDC 2011 was held in May, and all hands on deck for the ISDC 2011 at the Von Braun Center (VBC) and Embassy Suites. In June, after an exhausting and outstanding ISDC 2011, HAL5 held an ISDC 2011 debrief and lesson learned discussion. We also had a special presentation by our friend Matt Canella from Colorado, on “We Want Our Future,” a grassroots space-based outreach/advocacy initiative run by students, for students. Also in June, our chapter vice president and ISDC 2011 Chair, Bart Leahy, was nominated by HAL5 as our Professional of the Year (POY) for the annual Huntsville Area Technical Societies POY dinner on June 21.

In July, David Hewitt, HAL5 Education Outreach chair, gave his ISDC 2011 presentation on “What if We Were Going to Mars? New Ideas to Support Exploration.” In August, we held our annual election of officers, followed by a preview of Gordon Woodcock’s upcoming AIAA Space 2011 paper on “Designing an Enduring Mars Campaign.” In September, HAL5 member Ed Kiker spoke to us on “Designing an Initial Lunar Landing Site Habitat for Astronaut Training in Arizona.” Also in September, Tim and Melanie Pickens hosted our annual End of Summer cookout at Tim’s “Man Cave.” We fired both the HAL5 and Tim’s suitcase hybrid, and Dynetics Inc.’s Bigelow’s Space Station’s hydrogen/oxygen thruster demonstration unit. We even cooked some hot dogs with them. Yum!

In October, Dr. Jason Cassibry of Univ. Alabama Huntsville Propulsion Research Center spoke to us about “The Case and Development Path for Fusion Propulsion.” On a gorgeous, picture perfect October Saturday afternoon on top of the Monte Sano State Park next to the observatory that Wernher von Braun helped built, HAL5 participated in the annual VBAS Astronomy Day. This annual event is a highlight of the HAL5’s annual education outreach. HAL5 had two suitcase hybrid rockets on display and firing; one belonging to HAL5 and the other one from Dynetics. HAL5 had a “make and launch a paper air rocket” table that allowed kids to assemble their own paper rockets before launching them. Both were a hit with the kids and their parents. Our “rocket production supervisor,” Emily, and “launch director,” Peter, did outstanding jobs of keeping up with the over 100 future rocket engineers!



*HAL5 at Astronomy Day 2011. Make and Launch a Paper Air Rocket, and Suitcase Hybrids Shown.*

In November, Dr. Phil Stahl of NASA MSFC returned to HAL5 and gave an introduction and status update on the James Webb Space Telescope. In December, Anthony Brinkley and Mark Wells of Dynetics, Inc. gave us a preview of their Joint NASA Air Force Propulsion Conference paper on “From Rocket Belts to Lunar Landing: Peroxide’s Quite Revolution.” We wrapped up 2011 with our annual Christmas party at Tim Pickens’ “Man Cave.” Our thanks to the Pickens for their kind hospitality and continued support.

International Space Development Conference 2011

The 30<sup>th</sup> annual NSS conference (ISDC 2011) was held at the VBC and Embassy Suites Hotel May 18–22. Lead by Bart Leahy (Chair and former HAL5 V.P.) and Yohon Lo (Vice Chair), this was the second time HAL5 has hosted an ISDC. It was a success with over 800 attendees (including over 100 speakers). With over 30 exhibitors and taking up two of the VBC North Hall Ballrooms, the exhibit hall was the biggest draw and the largest in recent ISDC memories. With a multi-axis trainer and dual flight simulators from Space Camp, and an Internet Café hosted by Makers Local 256, a book authors’ panel, a job fair hosted by the Huntsville Space Professionals, hourly bus rides to the U.S. Space and Rocket Center (USSRC), a tour of the United Launch Alliance Decatur plant, Sidewalk Astronomy hosted by VBAS and a planetarium show at their mountain top observatory, we had something for everyone.

The conference had a wide range of presentation topics covering government and commercial space, history, space and planetary sciences, technology, politics and law, space solar power, space settlement, and synergy of military and civilian space. Father and son astronauts, Owen and Richard Garriott spoke about their shared experiences. George Whitesides, former NSS Executive Director and CEO and President of Virgin Galactic, gave a talk about the status of the SpaceShipTwo. Space Pioneer awards were presented to SpaceX, Dr. Paul Spudis, and the X-51A WaveRider Team. The Governor’s Dinner Gala took place at the USSRC Davidson Center where Mr. Robert Bigelow was our keynote speaker and the NSS von Braun Award was awarded to the Japanese Hayabusa Team for the first asteroid landing and sample return mission. Honoring the Hayabusa team with the von Braun award underneath the Saturn V rocket that von Braun helped built was the highlight of the conference.

With the severe tornado damages to North Alabama in April, a portion of NSS Silent Auction proceeds went to the Madison County Red Cross. To wrap it all up, the tornado siren went off near the conclusion of the conference during our Sunday luncheon. The attendees and VBC staff were ushered into the VBC basement while our vice president Robert Bijvoet kept the atmosphere festive by playing on a grand piano. This is one for the conference history book.



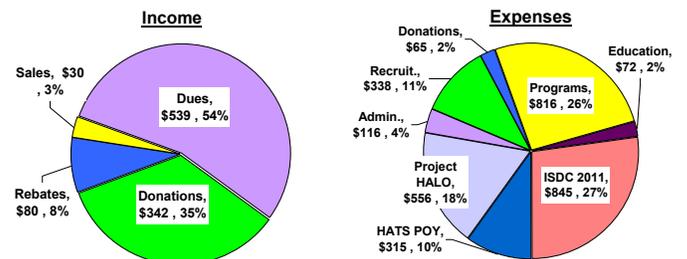
*Some of HAL5 Members present at ISDC 2011 to receive our second NSS Chapter of the Year Award (our first was for 2008).*

Project HALO

The Project HALO team meets every Wednesday night. We had a relatively slow year in 2011. The team continued to work on a proof of concept aluminum bottle liquid rocket and performed several cold flow tests. At the work night, we also worked on and tested a homemade propane powered turbojet engine.

Financial

The HAL5 bank accounts had a net decrease of over \$2100 in 2011, though some of this was expected. Total income was \$991, while total expenses were \$3122. Project HALO activity accounts for \$556 of that. Our hosting of ISDC 2011 currently shows as a loss of \$845, but \$425 in expenses will be repaid soon, and we will eventually see our share of the ISDC profits. The rest of the expenses (\$1722) was due to a very active year.



2011 HAL5 Officers (July 2011 to June 2012)

- President: Yohon Lo
- Vice President: Robert Bijvoet
- Treasurer: Ronnie Lajoie
- Secretary: Peter Turek
- Educ. Outreach: David Hewitt

In closing, we thank you for your continued support to educate the public and to promote a spacefaring civilization. We could not have accomplished all we have done without your support, time, and dedication. Special thanks to our awesome ISDC 2011 staff. We welcome your inputs and suggestions on how to better serve you and our community. See you at our next gathering!  
*Ad Astra Per Ardua!*