



2009 HUNTSVILLE ALABAMA L5 SOCIETY (HAL5) ANNUAL REPORT TO THE MEMBERSHIP

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/advocacy organization that advocates for the exploration and settlement of space. We are a mix of enthusiasts and professionals all engaged in the exploration and development of space. We 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, the government, and industry, we can speed up the day when routine, safe, and affordable space travel is available to anyone who wants to go.

As we started our 26th year, HAL5 continued with our monthly public lectures, education outreach with local organizations and events, and our Project High Altitude Lift-Off (HALO) amateur rocketry program. We led the 2009 *Space Settlement* calendar sale effort for NSS, hosted our second Yuri's Night party, and supported the von Braun Astronomy Society (VBAS) Astronomy Day. We presented and won our bid to host the 2011 International Space Development Conference (ISDC) in Huntsville, and received "Chapter of the Year Award" from NSS at the 2009 ISDC. None of this would have been possible without your time and dedicated support. Sadly, we said goodbye to our long time friend, mentor and co-founder of HAL5, Konrad Dannenberg. His passion for education, outreach and being our "first" space ambassador will live on in our memories and actions.

Administrative Activities

The HAL5 Executive Committee met at 6 p.m. on the second and fourth Thursdays of every month, as schedule permitted, at the public meeting room of Publix Super Market in south Huntsville. During these meetings, the officers report on the status of the chapter and discussed upcoming and ongoing project activities and the monthly program. The meetings are open to the public, current and prospective members. Our website, www.HAL5.org, is used to announce HAL5 and NSS events and news, including HAL5 and Project HALO information, monthly program, and special event notices and flyers. HAL5 also has a presence on *Facebook* as well as in available local print media outlets like the *Valley Planet*, *Huntsville Times*, TV stations' news and events calendar, and public radio station. Emails are sent to current members and guests who sign up at the monthly programs. Event

announcement postcards are sent out to those with no current email address and selected members.

The annual membership dues for regular and renewal members are \$16, and \$10 for students, seniors, retired people and unemployed. Membership expires on the anniversary of joining. We ended 2009 with 60 members.

Monthly Programs, Outreach and Special Events

HAL5 holds monthly public lectures or membership meetings on the first Thursday of every month, unless there is a holiday or other conflict. The meetings are held at the Huntsville–Madison County Main Public Library in downtown Huntsville. After each monthly program, a social was held at the local IHOP restaurant with the speakers and interested members and guests.



HAL5 2009 Monthly Program Flyers. See our website at www.HAL5.org for Larger Sizes and Past Flyers

We started off 2009 with Craig Russell of Americans in Orbit-50 Years on an update of "Friendship 7's 50th Commemoration." In March, our member, David Hitt, spoke to us about the book he co-authored with Owen Garriott and Joe Kerwin titled "Homesteading Space: The Human Story of Skylab." In April, Dr. Travis Taylor, scientist, engineer, and author, presented part 2 of his talk on *Planetary Defense: A Study of Modern Warfare Applied to Extra-Terrestrial Invasion*, what to do when they are here. On April 4, returned to LeeAnn's for our second Yuri's Night Party. On April 11, HAL5 staffed an education outreach table and fired a hybrid suitcase rocket on loan from Orion Propulsion at Sci-Quest Space Day on April 11. In May, HAL5 remembered space pioneer Konrad Dannenberg, key member of the von Braun team, co-founder of and long time friend of HAL5 whom passed away on February 16th of this year. The small remembrance was hosted by Ralph Petroff, and attended

by Konrad's widow, Jackie, friends and colleagues. At the 2009 ISDC in Orlando, received the NSS Chapter of the Year award, and awarded the 2011 (30th) ISDC.

In June, our friend Tim Pickens of Orion Propulsion Inc talked to us about green propulsion and what Orion Propulsion is doing in this area. In July, we held our annual election of officers and membership meeting to talk about the state of the chapter, NSS, Project HALO, ISDC 2011, soliciting feedback from the members. On July 25, HAL5 set up an educational outreach booth at the Cub Scout Water Rocket Launch event where members showed off a moon base model and once again fired the Orion Propulsion suitcase rocket. Mr. Dave Christensen talked about alternate energy options including space based solar power in August. In September a HAL5 member, Seth Hollingshead, gave a demonstration of a free, open-source space flight computer simulator.

In October, to celebrate 40 years of Apollo 11's Moon landing, former NASA historian Robert Jacques gave a lecture on the epic year of 1969 and the three Apollo missions that changed the world that year. The HAL5 education outreach team staffed a display at the annual VBAS Astronomy Day. HAL5 members volunteered to answer phones at the WLRH fall fundraising session. We received credit on the air and had a great opportunity to increase camaraderie among the members. These radio announcements were our most effective means to bringing new people to our meetings. Most importantly they increased the number of middle school to high school members at our meetings. In November, Al Reisz presented a lecture on an innovative electro-magnetic "rocket" engine designed for higher velocity space exploration. Also in November, HAL5 co-sponsored Konrad Dannenberg Tribute at University of Alabama Huntsville (UAHuntsville). In December, Sean Salge from Boeing Huntsville's International Space Station (ISS) office, talked about ISS research. We wrapped up 2009 with our annual Christmas party.

Konrad Dannenberg Tribute

In 2009, we said goodbye to one of our nation's space pioneer, a good friend of HAL5, Konrad Dannenberg. As his widow Jackie put it, Konrad was a "Space Man for All



Dr. Klaus Dannenberg, Konrad's son, speaks at the Dannenberg Tribute

Seasons. Rocket Pioneer. Apollo Engineer. Ambassador to the Future." To commemorate the donation of Konrad Dannenberg's personal papers to UAHuntsville, a daylong tribute to his life and work was held at UAHuntsville Salmon Library on November 7.

The event, organized by his widow Jackie and friends, was co-sponsored and run by HAL5. Public tributes to Dannenberg came from his family, friends, and members of the media, as well as former and current NASA engineers, project managers, public affairs officials, and NASA Marshall Director Robert Lightfoot. Dannenberg played an essential role in the past, present, and future of space exploration. Our sincere thanks to the Dannenberg family and friends, UAHuntsville and HAL5 officers and members for supporting this tribute a success.

Project HALO

Project HALO team meets every Wednesday night to work on the Tube Launch 1 (TL-1) amateur hybrid rocket. TL-1 will be tube launched and has an altitude goal of 100 km. Due to the unavailability of a test facility, there was no static firing conducted in 2009. We used this time to review our calculations of the past hybrid static firing and subscale tube launcher tests, and the team decided to started work on a small liquid engine, still using nitrous oxide as our oxidizer, which could offer us more 'boost for the buck.' A subscale version of this new design is scheduled for testing and possibly flights in 2010.



The Chair of the ISDC 2011 is Bart Leahy and Melissa Roth is the business manager. In late 2009 HAL5 selected the von Braun Center and Embassy Suites as the location for the conference. Bart and Melissa have begun negotiating the facility contracts, and began recruiting people to lead public affairs, programming, and other necessary functions. HAL5 will participate in the AIAA SpaceOps 2010 conference in Huntsville and a more ambitious Yuri's Night to help gain experience necessary for ISDC.

2009 HAL5 Officers (June 2009 to June 2010)

President:	Yohon Lo
Vice President:	Bart Leahy
Treasurer:	Melissa Roth
Secretary:	Laura Seward
Public Relations:	Evelyn Sabino
Education Outreach:	David Hewitt
Membership:	Emily Hewitt

In closing, we thank you for your continued support in our endeavors to educate and to promote a spacefaring civilization. We could not have done this without your support, time, and dedication. We welcome your inputs and suggestions on how we can better serve you and our community. See you at our next gathering!

- HAL5 Executive Officers