



Newsletter

Volume 37, Number 4, December 2006

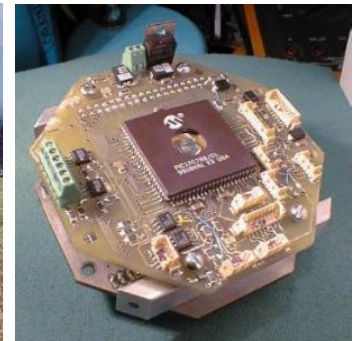
Open Technology, Ultra-Low-Cost Advanced Amateur Rocketry

Prof. Bart Massey
Portland State Aerospace Society



How do you get a 0.5 kg satellite into orbit on a budget? We'll attempt to answer that question by presenting our project, the Portland State Aerospace Society (PSAS). We're pioneering an extremely inexpensive, open source and open hardware launch vehicle system for use in educational and amateur projects. Our

more information on our project, please see <http://psas.pdx.edu>.

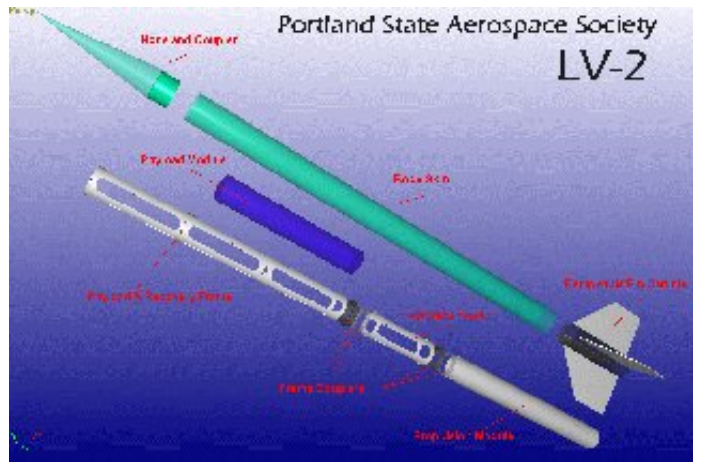


system ranges from a Linux-based flight computer to a custom inertial measurement unit aided by an open source GPS receiver to amateur radio equipment (including WiFi



PSU Daily Vanguard

for telemetry!) to a prototype Oxygen-Paraffin wax motor... and more. We'll attempt to summarize years of work in an hour presentation, which



Images courtesy of Portland State Aerospace Society

will include pictures, videos and data from launches. For

AIAA Lecture - Meeting

Date: Saturday,
December 16, 2006

Location: Museum of Flight
9404 East Marginal Way
South
Seattle, WA

Time: 1:30 PM AIAA MEMBER
RECEPTION
2:00 PM LECTURE BEGINS

Cost: Free

An RSVP is not required for this event



From the Left Seat

Paul Kostek: 2006-2007 Chair

From the Left Seat

As we come to the end of another year many of us have completed our annual performance evaluations or are getting ready to do one. Whether you work for a large corporation with a formal performance program, a small company or are self employed we should each assess not just what our employer thinks about our performance, but also assess how we are doing on our own personal goals. Besides setting work goals we should also set our own personal growth goals and assess how we are doing on these. Work with a mentor or your spouse/partner on developing these goals/objectives and plan on assessing them each year.

As you look at your goals/objectives for 2007, I want to encourage you to make use of AIAA as a career resource. It can be as simple as attending the monthly dinner meetings and making a new contact each month. Use the time before each meeting to meet the other attendees and try and sit with a new person(s) each month. By the end of the AIAA calendar year, you'll have added 8-10 new people to your network. Our dinner meetings each month provide an opportunity to be exposed to a new technology or learn more about the area you're involved in.

On the AIAA website, check out the Career Center (you will need to log in). Resources available include job search and posting, job hunting hints, The Professional Career Timeline, and salary information (calculator and surveys from around the U.S.). The Center also has presentations from the Career Workshop offered each year at the Aerospace Sciences Meeting in Reno.

Go beyond just attending a conference and this year consider submitting a paper or running a tutorial. The challenge of writing down what you're working on is worth the effort.

Or how about presenting to the Section? We're always looking for new speakers and if you have a topic that you think would interest the members contact Scott Eberhardt.

Best wishes for the Holidays (Christmas and Chanukah) and we look forward to seeing you in 2007!

*Wishing You a Safe and Enjoyable
Holiday and New Year!*

-PNW AIAA Council

AIAA 75 Years

In honor of our 75th anniversary, the following series will cover the Institute's history. The entire series can be read on the AIAA website.



The Merger - 1963

By the late 1950s, both the ARS and IAS covered similar topics and members. In considering various options, although the first reaction of most people was negative, this option made the most sense, and after years of figuring out programs and procedures, the two organizations officially consolidated in 1963. Paul Johnston was chosen as the Executive Director of the new American Institute of Aeronautics and Astronautics, with Jim Harford as deputy executive director; Johnston had agreed to retire 18 months after the launch of the AIAA and Harford then took over. Other staff positions were also eliminated: the ARS had had 49 staff members, the IAS had 67, but by July 1964, the total was down to 87, not including the specialists involved in the indexing operations, called the Technical Information Service.

The AIAA now had 47 technical committees (which has since grown to 66) and 66 local sections (now 64, including 2 in Australia).

At first, AIAA had only one broad technical publication, the AIAA Journal, followed by two specialized journals, the Journal of Aircraft and the Journal of Spacecraft and Rockets. Others soon followed, including a Journal of Hydronautics and a Journal of Energy. (Today there are seven AIAA journals, including one on-line only, the Journal of Aerospace Computing, Information and Communication. The magazine title was changes to Astronautics and Aeronautics in 1964, and later to Aerospace America in 1984. The AIAA Student Journal was launched in 1963. The AIAA continued the ARS' Progress in Astronautics Book Series, expanding it to Progress in Astronautics and Aeronautics, and added the Education Series to publish textbooks.

Both societies had active awards programs that were easy to combine, and today AIAA gives over 80 awards in dozens of technical areas.

As for location, it was decided during the consolidation negotiations to sell the IAS building and move to new quarters in the Sperry Rand Building at 51st Street and the Avenue of the Americas. The two California office buildings were sold, San Diego in 1965 and Los Angeles in 1974.

Events

Volunteer Opportunity

The Future City competition is looking for individuals to serve as judges at the Washington State competition. Please reply at your earliest convenience to indicate your interest and availability for the 2007 event. Here are a few key details.

IEEE (Institute of Electrical and Electronic Engineers) sponsors the local Future City competition as part of Engineers' week. It is open to teams of middle school students (7th and 8th grade). The winning team from this year's event will win an expenses-paid trip to Washington, DC to participate in the national competition.

There are four aspects to the competition. This is designed to promote teamwork, increase awareness of the need for infrastructure in cities, expand the definition of success beyond "just getting the right answer", and expose students to engineering-oriented career possibilities. All this, plus the competition itself is a challenging and rewarding experience for the students!

- Each team simulates their city using SimCity 3000 software, and runs the simulation for a specified interval. Criteria for judging include city layout, energy, transportation, and recreation. (0-80 points)

- Each team builds a physical model of their futuristic city (or a portion of it). (0-120 points)

- Each team writes an abstract about their city detailing a futuristic concept which is part of its design, and an essay on a given topic. This year's topic is "Develop an energy strategy to include fuel cell systems to power a city of the future." (0-90 points)

- Each team makes an oral presentation about their city. (0-90 points)

Judges are needed for three areas: abstracts and essays, physical models, and oral presentations. Following is a brief description of each.

- Abstracts and essays: These are due from the students on Friday, January 5th, and will be available on the website for download shortly afterward.

- Expectations: Read and review 8-10 essays (500-700 word research essay) and abstracts (300-500 words describing the city's design features and key attributes), and score them using the rubric provided. Scores are based on such aspects as how fully the engineering feasibility plan is described, how well-organized and well-written it is, and whether it is a creative solution.

- Time commitment: Several hours (flexible, between about January 8 and 17).

- Location: Flexible

- Physical models: These are presented on the day of the actual competition, which is Saturday, January 20.

- Expectations: View and judge teams' physical representations of their cities using the rubric provided. Interact with student teams in a positive, encouraging manner. Criteria include creativity, accuracy and scale, infrastructure, moving part, attractiveness, and use of recycled materials.

- Time commitment: Several hours between 7:30 a.m. and early afternoon on Saturday, January 20.

- Location: The competition site is Seattle Center.

- Oral presentations: Also presented on the day of the competition (January 20).

- Expectations: View and judge teams' oral presentations about their cities using the rubric provided. Interact with student teams in a positive, encouraging manner. Criteria include delivery/presentation, knowledge, and cooperation.

- Time commitment: Several hours between 7:30 a.m. and early afternoon on Saturday, January 20.

- Location: The competition site is Seattle Center.

Judging teams will be assigned for both physical models and presentations on competition day. If for some reason, January 20th presents a conflict for your schedule, then signing up to judge essays and abstracts might be a good fit.

Having participated for the past few years, I can heartily recommend this both as a fun activity and as a great way to promote interest in engineering among young people. It has been very impressive to watch some of these young folks and see the outcome of their labor!

The Future City website is ever-improving and informative. Check it out:

<http://ieee-seattle.org/futurecity/judges.html>

Please let me know if you would like more information. I look forward to hearing from you about your availability and willingness to help with this very fun and worthwhile event!

Thank you!

Jeanne Harshbarger

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Events

45th AIAA Aerospace Sciences Meeting and Exhibit

8 - 11 Jan 2007

*Grand Sierra Resort Hotel (Formerly Reno Hilton)
Reno, Nevada*

The 45th AIAA Aerospace Sciences Meeting and Exhibit, with its traditionally multidisciplinary character, provides an ideal forum for scientists and engineers from industry, government, and academia to share and disseminate the scientific knowledge and research results with a view toward setting new milestones for human flight. Over 25 of the AIAA Technical Committees and several ad hoc teams have assembled a stimulating and informative program. The program encompasses technical presentations on state-of-the-art topics in aerospace sciences, a keynote address, lectures, workshops, short courses, an awards luncheon, Technical Committee meetings, and exhibits. The Aerospace Sciences Meeting provides participants with one of the largest-ever technical paper selections and the broadest peer interaction of any AIAA-sponsored conference.

For more information and to register, visit www.aiaa.org.



2006-2007 PNW AIAA Calendar

Wednesday, December 6

Topic: Young Professional Committee Meeting
Contact: Emmanuel Domingo
Location: TBD-Seattle, WA

Saturday, December 16

Speaker: Portland State Aerospace Society
Topic: Portland State Rocket Program
Location: Museum of Flight

Tuesday, January 16

Speaker: Tom Daniel-University of Washington
Topic: Bug Flight
Location: Old Spaghetti Factory ²

Tuesday, January 23

Event: PSEC Mentor Night: University of Washington
Location: University of Washington, McCarty Hall
Seattle, WA

Tuesday, February 20

Speaker: Roger Launis
Topic: Apollo: The Thrill of a Lifetime
Location: Old Spaghetti Factory ²

Saturday, February 24

Event: PSEC Engineering Fair
Location: TBD

Tuesday, March 20

Speaker: TBD

Tuesday, April 17

Speaker: TBD

Tuesday, May 15

Speaker: Paolo Feraboli-University of Washington
Location: Azteca ¹

¹ Azteca	² Old Spaghetti Factory
150 112 th Ave NE	2801 Elliott Ave
Bellevue, WA	Seattle, WA

2006-2007 Retired Members Brunches

Saturday, January 20

Speaker: TBD
Topic: TBD

Saturday, May

Speaker: Bob Bogash
Topic: Caretaker of the Original 737: The Last 30 Years

All Retiree meetings are held at the Museum of Flight, Seattle, WA. Contact Tom Holgate (see list of officers) for more information.

Upper Left: Russ Maguire of Boeing presenting at the November dinner meeting.

Lower Left: Dick Taylor presenting at the November Retiree meeting.

Section website: www.pnwaiaa.org
 National website: www.aiaa.org

Please submit newsletter materials to the editor by the 21st of December for the January newsletter.

A PUBLICATION OF THE PACIFIC NORTHWEST SECTION OF AIAA
Address Corrections

Mail to:
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1801 Alexander Bell Dr.
Reston, VA 22091

On-line at
<http://www.aiaa.org>
 (Join/Renew/Update). Membership ID needed

Section Officers and Directors

Position	Name	Address (Mail stop if Boeing*)	Phone	Email address
Council				
Chair	Paul Kostek	6M-EU	-	kostek@pnwaiaa.org
Vice-Chair	Scott Eberhardt	-	-	eberhardt@pnwaiaa.org
Secretary	Jon Lee	02-XJ	-	lee@pnwaiaa.org
Treasurer	Chris Nelson	6712 183 rd St. SW, Lynnwood, WA 98037	-	nelson@pnwaiaa.org
Advisory Council	Bonnie Dunbar	-	-	-
Advisory Council	Ratan Khatwa	-	-	-
Past Chair	Dave Lednicer	2133 152nd Ave NE, Redmond, WA 98052	425-643-9090	lednicer@pnwaiaa.org
Elected, non-voting				
Vice-Chair-Elect	Steve Runo	-	-	-
Secretary-Elect	Mark Viviano	-	-	-
Treasurer-Elect	Jim McClelland	-	-	-
Appointed				
Webmaster	Andrew McComas	2133 152nd Ave NE, Redmond, WA 98052	425-643-9090	mccomas@pnwaiaa.org
Honors & Awards	Scott Eberhardt	-	-	eberhardt@pnwaiaa.org
Retired Members	Tom Holgate	2704 SW 314th, Federal Way, WA 98023-7842	253-838-0333	holgatz@aol.com
Newsletter	Emmanuel Domingo	03-JP	206-227-7819	domingo@pnwaiaa.org
Nominations	Vera Martinovich	02-XJ	425-266-8664	martinovich@pnwaiaa.org
Museum of Flight Liaison	Bonnie Dunbar	-	-	-
Pre-College Outreach	Scott Eberhardt	-	-	eberhardt@pnwaiaa.org
Public Policy	Karl D'Ambrosio	5026 18 th Avenue NE, Seattle, WA 98105	253-395-3710	dambrosio@pnwaiaa.org
Young Professionals	Emmanuel Domingo	03-JP	206-227-7819	domingo@pnwaiaa.org

* All Boeing people have the address of P.O. Box 3707, Mail Code xx-xx, Seattle, WA 98124-2207



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