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AIAA

October, 1997

Houston Section

Horizons

American Institute of Aeronautics and Astronautics

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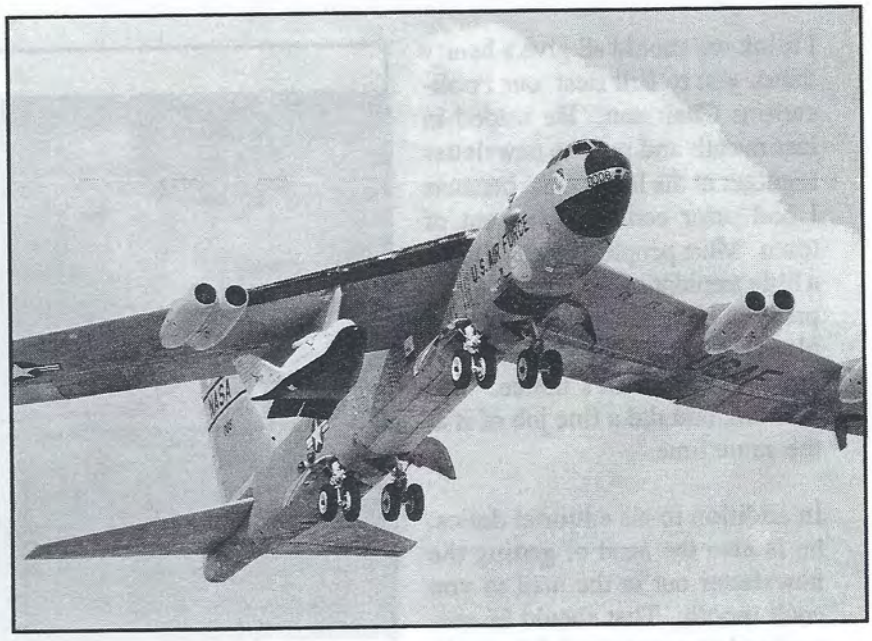


Inputs for the November's Horizons newsletter are due COB October 20th, 1997.

Editor's Note

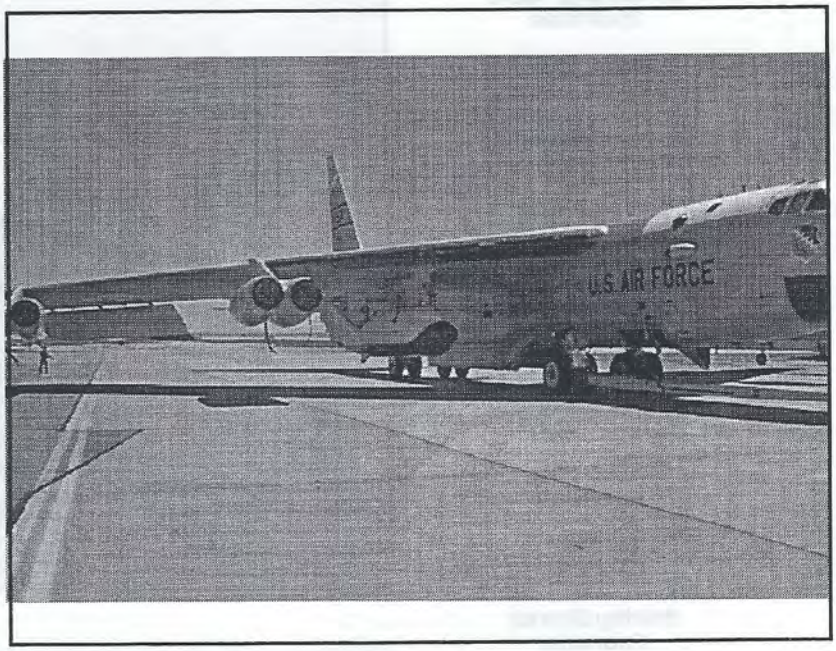
- by Cynthia Collins, Horizons Editor

I think we should all give a hearty thank you to Bill Best, our Publications Chairman. He waded in last month and put the newsletter together at the last minute because I had prior commitments out of town. Most people have more than a little trepidation at tackling a new project, and won't often take the plunge when called upon to produce at a moment's notice. But Bill did, and did a fine job of it at the same time.

In addition to his editorial duties, he is also the head of getting the newsletter out in the mail to you each month. That should be recognized as a massive job in itself. We have over a thousand people in our Section alone, and Bill manages every month to get the newsletters folded, sealed, labeled, and boxed for the Post Office, with the help of a few volunteers. It's a big job, and he should be commended for it. I certainly thank him, and I know that most of you do, too!

Thanks again for all your help, Bill.

Cynthia



Photographs used in this issue of Horizons are courtesy of Bill Geissler and Merrie Sanchez.

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Chairman's Corner

- by George Nield, Chairman

I hope you were able to attend our September dinner meeting on "Flight Testing the X-38." John Muratore, our speaker for the evening, did an outstanding job of describing the challenges and excitement of working on this dynamic new program. We have another top-notch event planned for October, with Norm Thagard returning taking a break from his new teaching assignment in Florida to tell us all about what it felt like to live and work onboard the Russian Mir space station. This should be a very entertaining talk, so I hope you will make every effort to attend, and don't forget to invite your family, friends, and co-workers to come along with you!

Last month in this column I talked a little bit about our Mission Statement – what we are trying to accomplish as an organization. This time I would like to share with you my thoughts on an appropriate strategy for the year – what things we ought to emphasize in planning our activities, and what we things we ought to keep in mind as we carry them out. Here are my suggested "themes" for the year:

1. Forming partnerships with other organizations. There are many different groups that we can work with in achieving our goals. A few of the organizations that we are talking with so far include the National Management Association, the American Astronautical Society, the Confederate Air Force, Nimitz Museum, Lockheed Martin/Denver, the Arts Alliance in Nassau Bay, Space Center Houston, the Bay Area Running Club, and the Texas Aerospace Commission. If there are other groups you think we need to be working with, please let us know.
2. Reaching out to the educational community. Getting young people interested in math and science is important! If students aren't getting the proper foundation today, there aren't going to be enough qualified engineers and scientists to follow in our footsteps tomorrow. And even non-aerospace engineers need to have an appreciation for the technical side of things, otherwise the general public won't be supportive of the kinds of research and engineering projects that most of us feel that this nation needs to be involved in.
3. Making more effective use of computers. We already have our own Internet web page and we are using an e-mail distribution list for getting out the word on upcoming events, but I feel like there is a lot more that can be done in this area. Long term, I think AIAA ought to be providing inexpensive electronic access to technical papers and other information for its members. Unfortunately, there are a lot of obstacles that will make it more challenging to achieve this goal, including existing contracts, copyright laws, and, let's face it, tradition. But I am determined to pursue this anyway. You should have recently received a mailing on how a test program which will allow us to get on-line access to the AIAA Journal. And I've got some rather wild ideas on the possibility of making and distributing our own CD's, which would have pictures, text, databases, or other information that might be of interest to our members. We can also do a lot more with our web site. If you think you might be interested in working on some of these projects, please let me know.
4. Providing value to our members. Fortunately, several of our conferences and other activities over the last few years have been very successful financially. This gives us an opportunity to not only do things

see Chairman...continued on page 6

Employment Opportunities

The AIAA Houston Section is now beginning to make aerospace-related employment opportunites available. If you are looking for employees, and you would like for the AIAA Houston Section to help your company make employment information available, please contact Charles Halliman (of Information Uncover) at (713) 991-1654.

LOCKHEED MARTIN

Lockheed Martin Space Mission Systems & Services,
a Division of Lockheed Martin Corporation,
located in the Clear Lake area,
has immediate openings for:

SOFTWARE ENGINEERS (minimum 2+ yrs. experience),
SYSTEMS ENGINEERS (minimum 3+ yrs. experience),
HARDWARE ENGINEERS,
ENGINEERING SYSTEMS ANALYSTS and
PROGRAMMERS (minimum 1+ yr. experience).

Positions require a degree in: Aeronautical Engineering, Aerospace Engineering, Computer Science, Computer Engineering, Physics, Math, or Electrical Engineering.

Qualified applicants are asked to submit resumes and cover letter, in strictest confidence, to:

Lockheed Martin Space Mission Systems & Services
P.O. Box 58487
Houston, TX 77058

Responses may be sent via fax to (713) 335-5030.

Employment Opportunities

Barrios Technology

Barrios Technology, a woman-owned small business located in the Clear Lake area, providing Space Operations, Information Technology, and training services to NASA, DoD, and commercial businesses, has immediate openings for:

SYSTEMS/OPERATIONS/TRAINING ENGINEERS (Exp.: 0-8 yrs. technical environment; Degree: BS EE, ME, AE, Engineering, Science, Math, Physics, MS Instructional Technology Media);

WORKSTATION ENGINEER (Exp.: 5+ yrs. Macintosh, PCs, Windows 95; Degree: BS Math, EE, Computer Science);

NETWORK ADMINISTRATOR (Exp.: 5+ yrs. Novell 3.12/4.0 Network Administration; NT 3.5.1/4.0 experience a plus; Degree: BS Math, EE Computer Science);

ORACLE PROGRAMMERS/DEVELOPERS (Exp.: 1+ yrs. PL/SQL; SQL *Loader; Oracle Webserver; Oracle Developer 2000; Oracle 6 or 7).

For consideration, fax your resume to:

Dept. SMS,
(281) 280-1901

or EMAIL to:

cheri.stewart@barrios.com.

For more information about Barrios Technology, Inc., Go to the Barrios HOMEPAGE at www.barrios.com.

CHAIRMAN...continued from page 3...

like award scholarships and other worthy endeavors, but also to do such things as subsidize our dinner meeting prices and offer discounts on airshow tickets, two steps we have already taken this year alone. What that means to you is that you will be getting a lot more for your dues money: not just a monthly magazine, but products and services that will "save you money" if you choose to participate. We are hoping that this will also be an additional incentive for people to join us as AIAA members.

Well, those are my thoughts. What's your reaction? Are we headed in the right direction? I'd certainly love to hear your ideas. Your comments, complaints, and suggestions are more than welcome. Just give me a call at (281) 483-1364, or send an e-mail note to gnield@ems.jsc.nasa.gov.

GN&C Seminar Report

By Mike Lisano

The recent GN&C Lunch and Learn Seminar, held from 12:00 to 1:00 PM, at JSC, was entitled "A New Approach to Distributed Adaptive Kalman Filtering." The seminar was given by Terry Hill, a summer student in the EG division of JSC, who is getting his MSAE at the University of Texas at Austin.

The seminar was attended by approximately 20 people, mostly NASA and contractor engineers, some summer students, and one student AIAA member from the University of Houston.

Mr. Hill discussed how he is implementing an architecture for an adaptive Kalman filter "bank" on a distributed network of workstations. Hill has installed and begun testing a software framework (written in MATLAB and SIMULINK) to enable future development of "filter bank" approaches to adaptive filtering by engineers in NASA/JSC's Aeroscience and Flight Mechanics Division. Likely spin-offs of this research adaptive Kalman filters include possible use someday to enable robust autonomous navigation of Mars entry vehicles, which continue to operate in the presence of poorly-modeled factors such as Martian atmospheric density.

Before I introduced Mr. Hill, I took a poll to see how many attendees are AIAA members. Eight people raised their hands. I offered to talk with anyone interested in joining AIAA at the conclusion of Mr. Hill's talk. I am going to keep using the Lunch and Learns to advertise AIAA membership.

Billboard Help Requested

The Houston Section Membership and Publicity Committees are planning on putting together an AIAA Billboard for the monthly dinner meetings and events. We are currently looking for a velcro color board similar to what many companies and organizations use for advertisement. If you or someone you know does this type of work (putting together these boards) please notify us.

Randall Hoerth, Publicity Chair
wk # 281-333-6421
hoerth@semda.jsc.nasa.gov

Shayne Westover, Membership Chair
wk. # 281-483-2446
shayne.c.westover1@jsc.nasa.gov

Lunch & Learn at UH Scheduled

By Edward Jablonski, Boeing

Edward Jablonski has been invited to lecture at his alma mater, in the University of Houston Cullen College of Engineering's building, on Friday, October 31, 1997, from 11:00 AM until 12:00 PM, in room 102-D.

The Industrial Engineering Seminar Series will be sponsoring an encore presentation of last July's "Early 20th Century Systems Engineering - Gearing Up for the Great War", as advertised in last June's Horizons.

For those of you who were unable to attend previously, and want more information on this presentation or on the Industrial Engineering Seminar Series, see their website at:

http://www2.egr.uh.edu/~iess/fall97/schedule.htm

or contact:

Garland T. Bauch, NASA/JSC, (281) 483-1309, at garland.t.bauch1@jsc.nasa.gov\

X-38 Project Manager Provides a Most Interesting Evening

By Merri Sanchez

The September 11 dinner meeting was held in the Space Center Houston Silver Moon Café, and featured a presentation on "Flight Testing the X-38" by John Muratore, NASA Project Manager. The X-38 is a prototype for the Crew Return Vehicle that is being planned for the International Space Station, and unmanned atmospheric flight tests are currently underway at the Dryden Flight Research Center (DFRC) in California. For those of you who were not able to attend, you missed a good one. There were 112 people in attendance for the presentation.

John Muratore started out the presentation with a short history on the X-38 project. The team was tasked by Mr. Goldin and Mr. Abbey to develop a Crew Return Vehicle for an order of magnitude less cost than previous concepts, using all civil servants. A secondary objective was to revitalize the engineering capabilities of the civil servant work force at JSC. The tiger team kicked off in 1994 and funding was received in mid-1995.

Since then the team has completed 18 full-scale parafoil tests at the Yuma Proving Grounds and numerous sub-scale tests while refining the parafoil and guidance system designs. They are currently performing atmospheric flight tests on the first of three atmospheric test vehicles from the NASA B-52 at Edwards Air Force Base. These vehicles were built by Scaled Composites in Mojave, California, with all of the system design and installation performed by the X-38 team in Houston. The first vehicle was contracted for in February 1996, delivered in August, 1996, and outfitted at JSC then shipped to DFRC in May 1997. The second vehicle will be shipped to DFRC in December 1997.

JSC has also started manufacture on the space flight test vehicle, which is being completely designed and built in house. That vehicle will be completed the end of 1999 to support a space shuttle launch in 2000. In addition a second space test vehicle will be built at JSC and outfitted in a Crew Transport Vehicle configuration in conjunction with the European Space Agency. That vehicle will be launched on an Arianne V. The first operational CRV should be available in late 2002.

Flight testing to date has included two captive carry flights on the

see X-38...continued on page 11...

Employment Opportunities

MCDONNELL DOUGLAS

Located in Seabrook, Maryland
has immediate openings for:

Instrument Electro-Optics Senior Level Engineer: To work with NASA and contractor engineers in the acceptance of instrument payload flight hardware for the Geo-stationary Operational Environmental Satellite (GOES).

This position requires at least a BS degree in a related engineering or science discipline and six or more years relevant experience to effectively perform the job. An advanced degree in science or engineering is highly desirable. The successful candidate will have relevant system engineering experience related to radiometric calibration for imaging or sounding instruments, familiarity with Infrared and Visible detector technology applications, spaceflight hardware integration and test experience, and problem resolution skills. Excellent technical, organizational, and planning skills are required.

This is a resident position at ITT located in Ft. Wayne, Indiana. Periodic travel will be required to and from the spacecraft contractor facility, GSFC and launch site. The Job Code is 97-004a.hou.

Applicant must have unrestricted authorization to work in the United States.

Spacecraft Attitude Control Systems (ACS) Engineer: To work with NASA and contractor engineers on the Polar Operational Environmental Satellite (POES) Project. Candidate must have a thorough knowledge of the operation and inter-relationships of ACS components such as reaction wheels, torquer coils, Earth sensors, Sun sensors, and inertial measurement units. Applicant must have experience in reviewing and evaluating activities related to the ACS subsystem, advising the customer of inadequacies, making recommendations for subsystem improvements, and performing special analyses and/or test and flight data evaluations. This position requires a BS or higher degree in engineering and at least ten years of experience in spacecraft attitude control subsystem design, development, integration, and test.

This is a resident position at Seabrook, Maryland. The Job Code is 97-011.hou.

Applicant must have unrestricted authorization to work in the United States.

If you are interested in these positions, please submit your resume to Richard Long by FAX (301-464-7413) or e-mail using our Web site at "careers.mda-esd.com" and include the above Job Code number in your response.

McDonnell Douglas Aerospace - Engineering Services Division is an equal opportunity employer - M/F/H/V.

Employment Opportunities

OCEANEERING

SPACE SYSTEMS

Oceaneering Space Systems has multiple (>30) contracts to address Technical Challenges in 5 different product areas. This broad business base offers varied design opportunities for engineers, while providing a stable work environment.

Oceaneering Space Systems (OSS), a division of Oceaneering International, Inc., located in the Clear Lake area, specializes in developing robust high technology solutions to our customer's challenges in harsh environments. We design and manufacture tools and equipment for astronauts and robots, advanced life support systems, advanced thermal protection systems for rockets, advanced refrigerators and freezers for use in space, and state-of-the-art NDE (Non-Destructive Stress Engineering) systems. OSS has immediate openings for:

MECHANICAL DESIGN ENGINEERS (Refrigeration Systems experience)
SOFTWARE ENGINEERS ((Habitability experience)
ELECTRICAL ENGINEERS (Hands-On Design and/or Instrumentation experience)
MECHANICAL ENGINEERS (Testing, Design, Hardware Integration experience)
QUALITY ENGINEERS (1 to 3 years Quality Assurance experience)
SENIOR ENGINEERS (Heat Transfer/Thermodynamics experience)
NDE ELECTRICAL DESIGN ENGINEERS (M.S. in E.E. or Physics)

Qualified applicants are asked to submit resumes and cover letter, in strictest confidence, to:

Oceaneering Space Systems
Personnel Department
16665 Space Center Blvd.
Houston, Texas 77058

Responses may be sent via fax to 281-228-5549
or via E-mail to arotherm@oss.oceaneering.com

EOE-M/F

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Bill Geissler - *333-6863* - geissler@ial4.jsc.nasa.gov

See LEADERSHIP...continued on page 11...

Technical Symposium Announced

By Edward Jablonski, Boeing

The Houston Section of AIAA will again be having the annual Technical Symposium early next year, and planning for the event is underway. The date is tentatively set to be Thursday, 07 May, 1998, so a call for papers will be going out soon. If you are interested in being a session chair, volunteering to work at the event, presenting a paper, or know someone else who would, please contact:

Edward Jablonski,
Vice-Chairman, Technical
at (281) 336-4294
or e-mail at
edward.j.jablonski@boeing.com.

Stay tuned for more information!

LEADERSHIP...continued from page 10...

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See LEADERSHIP...continued on page 12...

A Grateful Thank You

Let me say first how grateful I am for the scholarship you have awarded me and apologize for the late response. I had not been down to College Station until now to get the letter and I was truly surprised - what a welcome-back present to start off the semester with!

I hope to show you in the upcoming semesters how well your money was spent. This semester I have sixteen hours of courses that should prove quite challenging, as well as interesting. Also, I have been offered a job with a professor I had last semester (drafting) to assist in grading. I admit it's not an internship, but I look forward to the job and the experiences it will provide. Over the summer I completed six more hours of study (required electives) to bring my total to 63 and all with 4.0 GPR. My dream of graduating with a 4.0 continues!

Again, thank you for choosing me in that select group of students that you had to pick from . . .

Sincerely,

Russell Mueller
Gig 'em!

LEADERSHIP...continued from page 11...

Publicity

Randall Hoerth - *333-6421* - hoerth@semda.jsc.nasa.gov

Scholarship

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Young Members

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Automation & Robotics

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John Zelon - *282-5325*

Karin Loftin - *244-1122*- kloftin@prmailm.jsc.nasa.gov

See LEADERSHIP...continued on page 13...

Senior Members

Congratulations to our new Senior Members, Edward Jablonski and John D. Whitcomb. They join one other member from North Texas in Region IV and 40 others (including Brewster Shaw) across the nation in acheiving this status.

Perceptual Test

How smart are you?

READ the following sentence:

FINISHED FILES ARE THE RESULT OF YEARS OF SCIENTIFIC STUDY COMBINED WITH THE EXPERIENCE OF YEARS.

Now count the F's in that sentence.

Answer:

There are six F's in the sentence. One of average intelligence finds three of them. If you spotted four, you're above average. If you got five, you can turn your nose at most anybody. If you caught six, you are a genius. There is no catch. Many people forget the OFs. The human brain tends to see them as "V's" instead of "F's".

LEADERSHIP...continued from page 12...

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Bonnie Cooper - *336-4678* - Bonnie.Cooper@SW.Boeing.com

Systems Engineering

Greg Deiter - *336-4209* - Gregory.Deiter@SW.Boeing.com

John Vollmer - *244-7968*

Texas A&M Student Branch Chair

Tim Aranki - *(409) 845-3776* - spacecow@tamu.edu

Region IV Director

Neil Blaylock - *210-522-3238* - NBlaylock@swri.edu

Journal Notes...

By Dr. George Nield

Houston Section Selected for Computer Testing

The AIAA Houston Section has been selected to participate in a special test involving the on-line distribution of technical journals. For the first phase of this experiment, the AIAA Journal was chosen as the document which will be made available for on-line access by those involved in the study. Currently, only members of the Houston section, technical journal editors, and selected technical libraries are being invited to take part in the evaluation. Eventually, access will be made available to everyone, but only through a paid subscription; however, Houston Section members are being allowed to take part in the study at no cost. Since this is a test, it is not surprising that the user-interface isn't necessarily perfectly clear, and getting registered is a multi-step process. Also, not everyone is interested in reading this particular technical journal. However, I would strongly encourage all of our members to take advantage of this offer. By participating in this study, we will have an opportunity not only to see what kinds of techniques are being developed to publish and distribute technical information by computer, but also to critique the software and sign-up process, and provide suggestions for possible improvements in the future.

To use this service, you will need to download the necessary software from the Internet, at www.catchword.co.uk. After following the instructions to obtain a registration number, you will then need to fax it to AIAA HQ, Attention: Norma Brennan, at (703) 264-7551. She will take care of activating your free access to the journal. Again, even if you are not really interested in reading this particular journal, please consider participating in the study so that we can recommend improvements in the process for the future. If the Houston Section shows that it has a large number of members willing to help out by testing new computer initiatives, we may have the opportunity to significantly influence AIAA's involvement in this area.

Welcome New Member

A hearty welcome to Matthew W. Fischer, from College Station, who joined the AIAA Houston Section in August. This is a great time for all of our members, both new and old, to get involved. Even though most of our Officers and Committee Chairs have already been selected, there are many areas where an extra hand or two can be a big help in organizing or conducting the wide variety of events that we have planned for the year. Just call

See JOURNAL...continued on page 14...

JOURNAL...continued from page 13...

or send an e-mail note to one of the folks on the attached Houston Section Leadership List, and we would be happy to talk to you about how you can help out!

Educational & Professional Development Seminars

by Charles Halliman, Information Uncover

The Education & Professional Development Committee of the Houston Section of the AIAA offered seminars, during the 1996-97 session, to help you increase your knowledge, and enhance your career options. Among the seminars offered were an "Employability" seminar to help you stay employed; a technology commercialization (technology transfer) seminar, to let you know how technology can be transferred from the government to the commercial arena; and a financial planning seminar, to help you plan your financial future.

The seminars were well received. In response to that, we have talked with at least two of the seminar leaders — those for technology transfer and for employability seminars. These leaders have consented to bringing us seminars during our 1997-98 session, similar to the ones they created for you last year.

Please be on the lookout for upcoming AIAA seminar notices. Remember, these seminars can help you grow both professionally and personally. If you have a specific field of interest regarding education and professional development, please contact Charles Halliman, Chair of the Education & Professional Development Committee to see if a seminar can be planned. Charles can be contacted at Information Uncover, at 713-991-1654 or by e-mail at 72155.1324@compuserve.com.

Nominations Solicited for National Technical Committees

The AIAA has 66 national technical committees, which are involved in planning workshops and conferences, writing position papers, organizing design competitions, and many other activities. If you or someone you know are interested in serving on one of these committees, now is the time to apply. Each committee has between 30 and 35 members, and about one-third of the members rotate off each year. Each committee member is expected to have the ability to travel to at least two meetings per year and have sufficient time available to devote to the committee's activities. If you are interested in volunteering, you may access an on-line nomination form from the Internet at http://www.aiaa.org/information/technical/tcnom.html. Nominations should be received by November 1, 1997.

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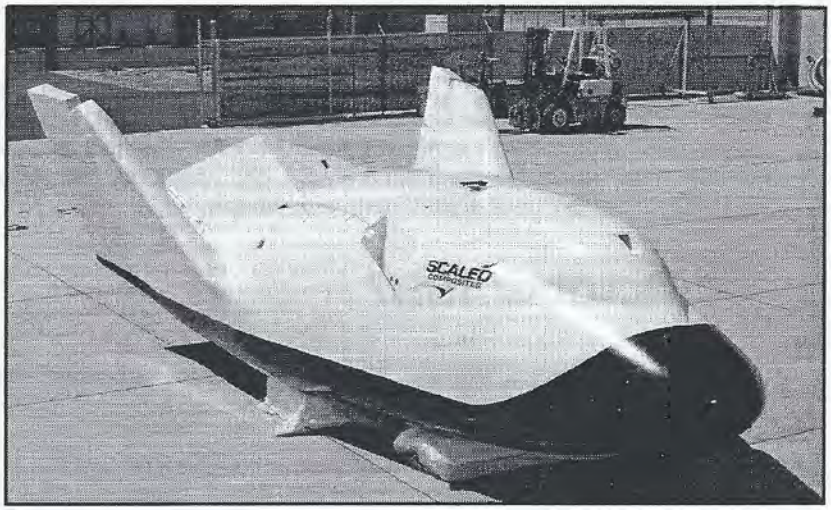
DFRC B-52 for flutter envelope clearance and systems checkout. All flight tests are supported by a small control team in a DFRC control room as well as a larger team in a JSC control room. Two more captive carry flights are planned in October and November, followed by the first release flight in mid-November. The first vehicle, V131, will have pinned flight control surfaces and will be mainly used to study B-52 separation dynamics and vehicle/parafoil interactions. The second vehicle, V132, will have active control surfaces. The third vehicle, V133, will have a modified shape to match the spacecraft and will be used to test out spacecraft systems. The shape was modified to allow upright seating in the vehicle, which will allow the same structure to serve as both a Crew Return Vehicle for NASA and a Crew Transport Vehicle for ESA. Using the same structural design has allowed NASA to team with ESA, saving development costs for both agencies.

Mr. Muratore encouraged active audience participation throughout the presentation with various "home movies" of parafoil and B-52 testing, video animations, models for display, and a lively question and answer period.



AIAA Calendar

The AIAA Houston Section Calendar provides information on all Houston Section events and other activities of interest. The listing includes Council meetings, which are open to all interested members, Horizons deadlines, committee meetings, Lunch & Learns, and similar events. Also included are local aerospace-related events. Please send pertinent details to Dr. George Nield at NASA JSC, Mail Code YA, Houston, Texas 77058; phone (281) 483-1364 fax (281) 483-2968; or e-mail gnield@ems.nasa.jsc.gov.

* October 1997

- October 9 - Council Meeting, 5:00 p.m., Center for Advanced Space Studies.

- October 13 - Horizons Deadline. Please send newsletter articles or activity information to Bill Best, Publications Chair, at the following e-mail address: william.d.best@usahq.unitedspacealliance.com

- October 17 - Region IV RAC Meeting, Albuquerque, NM.

- October 18-19 - "Operation Pacific Fury." World War II commemorative and historical education event, featuring reenactments of Pacific island invasions, including Japanese and American aircraft and other hardware, at Galveston's East Beach. A limited number of FREE tickets are available for AIAAEHouston Section members and their families. For more information, call Edward Jablonski at (281) 336-4294.

- October 23 - Dinner Meeting, "Life on the Mir", featuring Dr. Norm Thagard, the first American to live and work onboard the Russian Space Station. Program will be held at the Gilruth Center at the NASA Johnson Space Center.

- October 28-29 - Reusable Launch Vehicle Human-in-Space Workshop, South Shore Harbour Conference Center. Sponsored jointly by AIAA and Lockheed Martin.

* November 1997

- November 6 - Council Meeting, 5:00 p.m., Center for Advanced Space Studies.

- November 6 - 6:00 to 10:00 PM. CLCTS Leadership Seminar at the Gilruth Center. Conducted by Dr. Zafar Taqvi. Cost is $10.00, which includes a box supper. Contact Andy Lindberg at (281) 532-4450 for details.

- November 10 - Horizons Deadline. Please send newsletter articles or activity information to Bill Best, Publications Chair, at thhe following e-mail address: william.d.best@usahq.unitedspacealliance.com

- November 13 - Dinner Meeting, Status Report on the Space Biomedical Research Institute," featuring Dr. Bobby Alford.

Space Calendar for October

[Information courtesy of the Space Calendar, compiled by Ron Baalke/JPL]

* Oct 03 - 35th Anniversary (1962), Sigma 7 Launch (Walter Schirra)

* Oct 04 - 40th Anniversary (1957), Sputnik 1 Launch, 1st Man-Made Object Launched Into Earth Orbit

* Oct 05 - Robert Goddard's 115th Birthday (1882)

* Oct 09 - 20th Anniversary (1977), Soyuz 25 Launch (USSR)

* Oct 10 - 35th Anniversary (1962), Mariner 2 Discovery of Solar Winds

* Oct 14 - 50th Anniversary (1947), Chuck Yeager Breaks the Sound Barrier

* Oct 18 - 30th Anniversary (1967), Venera 4, Venus landing

* Oct 18 - 20th Anniversary (1977), Kowal's Discovery of Chiron

* Oct 19 - 30th Anniversary (1967), Mariner 5, Venus Flyby

* Oct 21 - Yerkes Observatory's 100th Birthday (1897)

* Oct 22 - 5th Anniversary (1992), STS-52 Launch (Columbia), LAGEOS-S

* Oct 30 - 30th Anniversary (1967), 1st Automatic Docking, Kosmos 186 & Kosmos 188 (USSR)

Anniversaries

The Houston section celebrated 40 year anniversaries for three members last Spring: Roger Eichhorn, Ernest Hillje, and Roger Tremant.

Two others celebrated 50 years with the AIAA, William Bland, Jr. and Allister Presnal. Congratulations!

A Mystery for You...

Three men walk into a hotel and are charged 30 dollars for the night. Easy enough, each guy pays 10 dollars a piece. After going to the room, the hotel clerk realized he overcharged the men 5 dollars, since it should have only cost 25 dollars for the night. The desk clerk hands the bellhop 5 dollars and asks him to bring it back to the men. On his way, the bellhop realizes it would be pretty hard to split up the 5 dollars between the three men. So, he pockets 2 dollars and gives the 3 dollars to the men. Therefore, each man paid 9 dollars instead of 10. Now, adding up the money, 9 dollars times 3 men equals 27 dollars, plus the 2 dollars in the bellhop's pocket. 27 plus 2 equals 29 dollars.

What happened to the last dollar?

University Consortium For Continuing Education

Re: Engineering Defenses Systems for the 21st Century: SHORT COURSE

Jack Fisher will be presenting his annual 3-day course on Engineering Defenses Systems for the 21st Century on November 3-5, 1997 in New Orleans, LA. This course presents the basics of systems engineering for complex defense systems and examines each of the recent DoD initiatives to establish its impact on the practice of systems engineering. The detailed course description is located on the UCCE website at www.ucce.edu/596. This course is approved course for credit in the UCCE System Engineering Certificate Program. Jeff Grady will also be presenting a new course on System Verification and Validation on December 8-10, 1997 in San Diego. This will be an excellent opportunity to meet in a small group setting with other professionals with similar interests to share ideas and experiences. We hope that you and others in your organization will attend. Please share the following calendar of upcoming courses with others in your department:

09/29-10/3/97	Avionics & Weapons System Flight Test	McShea	Alexandria, VA
10/01-03/97	Vehicle Multiplex Technology	Lupini	Romulus, MI
10/06-08/97	Tire Characteristics/Vehicle Dynamics	Pacejka	Romulus, MI
10/06-08/97	Plasma Etching: Technologies & Processes	Salimian	Austin, TX
10/09-10/97	Vehicle Engine Cooling Systems	Kargilis	Romulus, MI
10/20-24/97	Spreadsheet-Aided Engineering & VBA	Mincer	Marina del Rey, CA
11/03-05/97	Engineering Defense Systems in 21st Cent	Fisher	New Orleans, LA
11/10-14/97	Spreadsheet-Aided Engineering & VBA	Mincer	Romulus, MI
12/08-10/97	System Validation & Verification	Grady	San Diego, CA
12/08-10/97	Plasma Etching: Technologies & Processes	Salimian	San Jose, CA
12/15-18/97	Error Correction/Communication Systems	Weldon	San Jose, CA
01/19-23/98	Spreadsheet-Aided Engineering & VBA	Mincer	Lake Tahoe, CA
02/23-27/98	Avionics & Weapons System Flight Test	McShea	Mojave, CA
03/16-18/98	21st Century Configuration Management	Fournier	Alexandria, VA
03/16-19/98	Flight Test of Radar Systems	McShea	Mojave, CA
03/23-26/98	Error Correction Codes/Digital Storage	Weldon	Santa Clara, CA
04/06-08/98	System Engineering Management	May	Monterey, CA
04/06-10/98	Spreadsheet-Aided Engineering & VBA	Mincer	San Diego, CA
04/23-24/98	Design of Automotive HVAC Systems	Kargilis	Southfield, MI
05/04-06/98	Engineering Defense Systems in 21st Cent	Fisher	Woodland Hills, CA
05/16-20/98	Flight Test of Electronic Warfare Systems	McShea	Mojave, CA
06/24-26/98	Systems Engineering Management	May	Alexandria, VA
07/13-15/98	Managing a Successful Systems Engr Program	Reilly	Dearborn, MI

UCCE also has over 300 engineering courses available including the courses listed above which can be offered on-site at your facility. To register or request detailed brochures on any of the above courses, call (818) 995-6335 or FAX (818) 995-2932 or email info@ucce.edu.

Sincerely,
Tom R. Mincer, Ph.D.
Director, University Consortium for Continuing Education

Cranium Cruncher

I hope many of you tried my little exercise last month and came up with a grey elephant from Denmark. I didn't get any "strange" inputs about a lavender platypus from Albania, so most of you must have run true to expectations. As I promised last month, we'll try a puzzle that's a bit more challenging this time. I think you'll enjoy this one, although it's not too tough.

Turkeys in the Road

Farmer Jones of Kemah just blew a tire on his pickup, and spread his crates of turkeys all over highway 146 just south of LaPorte. When those birds were on the truck they were in six crates, 50 to each crate, merrily on their way to market to meet the happy turkey butcher. Of course they didn't know they were going to the butcher or they wouldn't have been so happy. But when that tire blew! Wow! Now the turkeys are out of the crates and running all over the place, and Farmer Jones is having a hard time gathering them up and getting them back into the crates. Finally, when all the turkeys he can find are re-crated, Jones' turkey head-count tells him that some of the gobblers got away (must have been with some help since turkeys aren't too smart) and there are no longer 50 birds in each crate. Using the clues below, figure out how many turkeys are in each of the six crates. The crates are lined up in a row and numbered sequentially from 1 to 6, with crate #1 being on the left end and crate #6 being on the right end.

1. There are 233 turkeys left
2. One end crate has the most turkeys in it; the other end crate has the fewest turkeys. The difference in count between the two end crates is 13 turkeys.
3. Crate #3 has six more turkeys than crate #2.
4. Crate #5 has two fewer turkeys than crate #1.
5. Crate #4 has 35 turkeys, three more than the crate with the fewest.

See how many turkeys you can place correctly! Send me your answers via paper mail to:

Norman Chaffee
Mail Code AP2
NASA-JSC
Houston, TX 77058

or reach me by e-mail at norman.h.chaffee1@jsc.nasa.gov.

I'll collect all the correct answers and publish a list next time. By a random process I will then select a winner from the pool of correct answers received by press time next month. The winner will receive a gift certificate for one free meal at an upcoming AIAA meeting.

Good luck!

Norm Chaffee

AIAA
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Webster, TX 77598

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Volume 21 Number 2

Horizons

October, 1997

GEORGE NIELD
CHAIRMAN 1997-98

Thursday, October 23, 1997

LIFE ON THE MIR

Dr. NORMAN E. THAGARD
Mir 18 Cosmonaut Researcher

PRESENTER

After receiving a master's degrees in engineering science from Florida State University in 1966, Norm entered active duty with the U.S. Marine Corps Reserve. He achieved the rank of captain in 1967, was designated a naval aviator in 1968, and was then assigned to duty flying F-4s at the Marine Corps Air Station in Beaufort, S.C. He flew 163 combat missions in Vietnam before returning to the United States. Thagard resumed his academic studies in 1971 and received a doctor of medicine degree from the University of Texas Southwestern Medical School in 1977. Thagard was selected as an astronaut candidate in 1978. His first space mission was as part of the crew of STS-7 in June 1983. His second flight was STS-5IB, the Spacelab-3 science mission, in April/May 1985. Thagard went to orbit for a third time in May 1989 during the STS-30 mission. The mission's highlight was the deployment of the Magellan probe, His fourth flight in January 1992 was STS-42. Four-time Shuttle veteran Thagard became the first American to ride on board a Russian launch vehicle when he was launched to the Russian space station on March 14, 1995 aboard a Soyuz rocket. He returned aboard Atlantis at the conclusion of the first Shuttle/Mir docking mission -- STS-71. He has retired from NASA and returned to his alma mater to teach.

DINNER MEETING

5:30 Social
6:15 Dinner
7:00 Presentation

Entree: CHICKEN CORDON BLEU

MEMBERS	$ 7.00
NONMEMBERS	$12.00
STUDENTS	$ 5.00

ROBERT R. GILRUTH RECREATION CENTER
JOHNSON SPACE CENTER

MIROS GARZA 483-0934 USA	JANET STEWART 333-6724 LOCKHEED MARTIN	NICK JOHNSON 483-5313 NASA

CALL ONE OF THE ABOVE FOR RESERVATIONS.
NOTE: RESERVATION DEADLINE IS MONDAY OCTOBER 20 AT NOON.
ANY CANCELLATIONS ARE REQUIRED PRIOR TO DEADLINE. NO-SHOWS WILL BE BILLED.
ALL ARE WELCOME
DINNER RESERVATIONS ARE NOT REQUIRED FOR ATTENDING THE PROGRAM ONLY.