

Horizons

American Institute of Aeronautics and Astronautics

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Chairman's Corner

by Dr. George C. Nield, Chairman

I'm excited about having the opportunity to serve you, the members of the AIAA Houston Section, during the upcoming year. Although leading a volunteer organization can often be a time-consuming responsibility, I found it to be a very rewarding experience during my first term as Chairman 3 years ago. Since that time, the aerospace profession has faced a number of significant challenges, including a continued belt-tightening in both government and industry. Professional society membership is down notably from where we were in the early 1990's, but our numbers seem to have stabilized recently. I'd like to think that we are poised for a major growth spurt in the coming months. In any case, we certainly owe our Past Chairman, Tom Mulder, and his team a great big "Thank You!" for their hard work and outstanding accomplishments during the past year.

Looking ahead, I'd like to start out by taking another look at our Mission Statement and then talking about some of our future plans. The mission of the Houston Section of the AIAA is to promote the advancement of the aerospace profession, with special emphasis on the following tasks:

-To provide the membership with opportunities for continuing education, professional growth and recognition for their accomplishments.

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-To stimulate the exchange of information within the scientific and technical community.

-To provide support and encouragement for students in learning math, science, and engineering.

-To assist the general public in understanding the benefits of aerospace systems and technology.

As part of our efforts to support the education and professional growth of our members, we are planning 10 monthly dinner meetings this year, featuring nationally-known speakers and interesting topics. We've sent out several of the speaker invitations already and hope to finalize the rest of the schedule over the next several weeks. On the technical side of the house, we will be continuing our very successful "Lunch-and-Learn" seminars, which are organized by our local technical committees. We will also be sponsoring several workshops and conferences, including a special Reusable Launch Vehicle workshop in October. I'd like to place a spe-

cial emphasis this year on our educational outreach programs. AIAA recently created a new category of membership, called Educator Associates. Designed for primary and secondary school teachers, it has the potential to really help out in the teaching of math and science by increasing the communication and cooperation between teachers and engineers. In addition to providing educational materials, we could also offer help in tutoring, science project oversight, career counseling, and mentioning. There is even money available for grants that can be used to purchase extra equipment for the classroom. If you are interested in helping out in this area, please contact Calvin Seaman, our Pre-College Outreach Chair.

To get more bang for the buck, I'm hoping we can forge some partnerships with other organizations where doing so would help both groups in furthering their objectives. For example, we've been talking to leaders of the National Management Association and the American Astronautical Society about holding one or more joint dinner meet-

ings during the year.

We also hope to start developing long-term relationships with the local school systems, area science museums, and even the Texas Aerospace Commission. Although each organization has its own interests and reason for being, having several groups working together on a common goal can often result in a special synergy and an extra measure of success.

Finally, just because we have a bunch of rocket scientists in our group, it doesn't mean we can't have some fun. Some of the non-technical activities that we are planning for the year include offering free or discounted airshow tickets, a field trip to visit the Texas A&M Student Branch (on a football weekend of course), and even a fun run. If you've got some ideas on other things you'd like to see us get involved in, please give me a call at (281)483-1364, or send me an e-mail note at gniel@ems.jsc.nasa.gov.

Thanks for your support. I'm looking forward to meeting each of you at one of our upcoming events!

Inputs for the October's Horizons newsletter are due COB September 15, 1997.

Report On Ed Jablonski's Lunch n' Learn

- by Bonnie Cooper

On July 22nd, Edward Jablonski gave a presentation at an AIAA lunch-and-learn meeting on systems engineering issues related to World War I. There are some interesting parallels between the technology developments of World War I and the technology development related to Space Station. Of particular interest was Mr. Jablonski's account of the development of the American artillery gun. The development was managed by an officer in charge of ordnance, whereas it could have benefited from the design input of members of the artillery—those who would actually be using the gun. Moreover, because of repeated design changes in the gun (there were over 100 of these) the development of the gun was delayed so badly that, by the end of World War I, only a single production item had been delivered to the front.

Another point of interest was the very different development style that the Germans used to produce their zeppelins. The Administrator of the German Airship Corps was directly in charge of the three factories that produced these airships, and after each vehicle was produced, they got immediate feedback as to the good and bad points of that airship, such that design changes could be incorporated into the very next airship that was produced. As a result, the zeppelins included some very innovative technologies.

Mr. Jablonski also gave some information on the methods used to produce the Flying Machines, Landships (tanks), Dreadnought Battleships, and other technological achievements of the era. Because of these developments, and also due to the social and economic changes surrounding World War I, the world that emerged from it was

very different from the world that had existed before. Essentially, the world was transformed from agrarian societies and Royalty rule, to an era of mass industrialization and democracy.

Horizons is the monthly newsletter of the Houston Section of the American Institute of Aeronautics and Astronautics. It is created by members of the Houston Section and reproduced at the Houston Offices of Lockheed Martin. Opinions expressed herein, other than by elected Section officers, are those of the authors and do not necessarily represent the position of AIAA or of the Houston Section. Please address all correspondence to the Horizons Editor, Cynthia Collins, Lockheed Martin/NASA/JSC EAS/S36-2.

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CONTACT

We have received a letter from Danielle Svelha, by way of Ellen Ochoa our scholarship chair, addressed to our section. We print it without comment except to say we are delighted to hear from her.

"Dear Houston Section of AIAA,

Thank you for selecting me for the Spirit of Apollo Scholarship. I was very excited to get your letter and look forward to using the scholarship to work on my goals.

I'm at home (Denton) this summer, and I started working for CBS Mechanical in May. I am a plumber's helper and we are working on a new building at Texas Woman's University. It has been a really good experience so far. I'm learning lots about how to put a system together - the different types of pipes and ways they are put together, different valves, the different elements - pumps, air handlers, etc. I'm also learning a lot about working with different types of people. Right now we are testing the system and getting it ready to bring it on line. This past week was really cool because I found out the chillers being used are absorption chillers which we had discussed in my thermodynamics class. I was really excited to see real live stuff that I learned in class.

Besides work, I'm trying to keep in shape for swimming, and I'm playing ultimate frisbee (this is a new thing and it's tons of fun). Recent events include a tomato on my tomato plant, Taming of the Shrew, and a crawfish broil in College Station next weekend.

Thank you again for selecting me. I hope to make it to one of your meetings and meet you all. Sincerely,
Danielle Svelha

Operation Pacific Fury Planned for October

The Admiral Nimitz Museum of Fredericksburg, TX, is planning a WWII commemorative and historical education event called "Operation Pacific Fury" on both October 18 and 19 on Galveston's East Beach. The AIAA Houston Section is serving as a co-sponsor for this event, in cooperation with the Boeing Employees Association and many other companies and organizations. Activities include two reenactments of Pacific island type invasions, with US Marine Corps, Army, and Navy re-enactors, landing craft, Japanese defenders, pyrotechnics, WWII vehicles, and supporting aircraft, begin-

ning each morning on the East Beach. Plus, there will be a Living History enactment at Fort Travis on the Bolivar peninsula throughout the weekend, and a "Big Band" dance at the Lone Star Flight Museum Saturday evening. Local, national, and international media will be in attendance. AIAA members will be particularly interested in the aviation aspects of the event, as the Japanese and American aviation assets will be provided by the Confederate Air Force and the Lone Star Flight Museum. The AIAA (along with the Boeing Employees Association) will have a booth at these events, so please stop by and say "Hello!" For those who are willing to help out, we could also use a few more volunteers to staff the booth.

As a service to its members, the AIAA Houston Section, will have a limited number of FREE tickets available for Houston Section members and their immediate families. Three types of tickets are available:

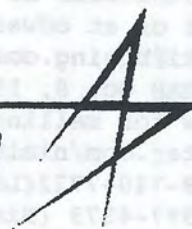
Saturday 10 am (beach invasion) event - Adult and Child

(Continued on page 6)

Employment Opportunities

The AIAA Houston Section is now beginning to make aerospace-related employment opportunities 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.

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Saturday Evening Big
Band Party (at LSFM
Hanger) - Adult Only

Sunday 11 AM (beach
invasion) event - Adult
and Child

For ticket requests,
please contact
Edward>Jablonski at 281-
336-4294 or at edward.j.
jablonski@boeing.com, NO
LATER THAN Oct 8, 1997
to allow for mailing.
www.instar.com/nimitz or
call 409-740-7722 (LSFM)
or 210-997-4379 (Nimitz)
for more event informa-
tion

SPACE REPORT

After intensive investi-
gation on both the Rus-
sian and US parts,
spokespeople from both
space agencies have deter-
mined the cause for the
accident which has placed
the station and its resi-
dent personnel in jeop-
ardy.

In terse statements at a
recent press conference,
Russian and US space agency
spokespersons said, "We
have concluded joint in-
vestigations concerning
this potentially tragic in-
cident and each nation's
team, separately, has ar-
rived at identical conclu-
sions for this event. The
accident was caused by one
thing and one thing only:

"OBJECTS IN MIR ARE CLOSER
THAN THEY APPEAR"

\$5.00 Tickets

for

Wings Over Hous- ton Airshow

The United States Air Force
Thunderbirds headline the
1997 13th Annual Wings Over
Houston Airshow on Septem-
ber 27-28 at Ellington
Field. The show features
a whole new concept of en-
tertainment and enjoyment
for everyone in the fam-
ily, starting with a flight
extravaganza of famous
World War II air battle
reenactments by vintage
aircraft. There is a re-
markable assembly of mod-
ern military jets, plus
many added attractions
never seen before in Hous-
ton. Gates open at 8:00AM
and close at 6:00PM

The spectacular air dem-
onstration by the
Thunderbirds is a combi-
nation of the four-air-
craft diamond, five-air-
craft special formations,
and six-aircraft delta
formation, with the single
and two-aircraft solos
completing the maneuver
repertoire. The pilots
perform approximately 30
maneuvers in the demon-
stration. The entire
Thunderbird show, includ-
ing ground and air, runs
about an hour and 15 min-
utes. It should also be
noted that this is the
50th anniversary year of
the U.S.A.F. The AIAA
Houston Section has 200
tickets available for

members and their families
for \$5 each (normally \$15
at the gate). See the fol-
lowing members for tick-
ets (while they last) which
are good for either Sat-
urday or Sunday.

George Nield	
JSC/Bldg 1	481-1364
Bill Best/USA	
600 Gemini	282-6970
Randall Hoerth	
LMSMSS/LM3	333-6421
Mike Begley/Boeing	
Space Park	336-5225

September Anniversaries

[Information courtesy of
the Space Calendar, com-
piled by Ron Baalke/JPL.]

- Sep 05 - 20th Anniver-
sary (1977), Voyager 1
Launch
- Sep 08 - 30th Anniver-
sary (1967), Surveyor 5
Launch (Moon Lander)
- Sep 09 - 105th Anniver-
sary (1892), Edward
Barnard's Discovery of
Jupiter Moon Amalthea
- Sep 12 - 5th Anniver-
sary (1992), STS-47 Launch
(Endeavour), 1st
Japanese Spacelab
- Sep 17 - Konstantin
Tsiolkovsky's 140th Birth-
day (1857)
- Sep 29 - 20th Anniver-
sary (1977), Salyut 6
Space Station Launch
(USSR)
- Sep 29 - 35th Anniver-
sary (1962), Alouette 1
Launch, 1st Canadian
Satellite



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.

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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.

Houston Section Welcomes International Visitor

The Houston Section recently had the opportunity to offer some Texas-style hospitality to one of our fellow AIAA members from Australia. Justin Talbot-Stern, Chair of the University of Sydney Student Branch, was visiting the Johnson Space Center as part of his extended tour of American aerospace facilities. After checking out the Space Shuttle simulators and other astronaut training hardware, he spoke at a "brown-bag" luncheon to a group of interested Houston Section members. During his talk, Justin described the current status of the Australian aerospace industry and the type of engineering educational programs which are offered by Australian Universities. Some of the more interesting aspects of the engineering program at the University of Sydney were the absence of any non-technical course requirements, and the inclusion of several hours of flight training, which are meant to bring a touch of real-world practicality to the theory that is discussed in the classroom.



Justin Talbot-Stern, University of Sydney Student Branch Chair [third from left], presents a certificate to [left to right] Russ Filler, Houston Section Chairman-Elect; George Nield, Houston Section Chairman; and Edward Jablonski, Houston Section Vice Chairman-Technical.

One of the goals of the University of Sydney Student Branch is to assist in the formation of a regular AIAA Section in Australia. With this in mind, Houston Section members were able to share some of their ideas on how to retain recent graduates in the profession, how to solicit and promote corporate support, and how to go about establishing a Sister Section activity. We wish our Australian colleagues the best of luck in their future endeavors and look forward to a warm and mutually beneficial relationship in the years ahead.



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Welcome New Members!

We have had a number of people join us as members of the AIAA Houston Section over the last few months. Whether you are new to the Section or an "old hand", we'd like to invite you to get involved in section activities. It takes a lot of people to have a successful year, so we feel like we really do have something for everyone! If you would like to discuss some of the many projects we are involved in, and how you might be able to help out, please call one of the Section officers or Council members. Here is a list of those joining our Section since June:

Suzanne Albert
Fernando Barcenas
Mark Bruun
Bernard Harris
Akihiko Hoshide
Michael Kearney
Charles Kennedy
Michael Lounge
Peter Plunkett
Srikanth Raghunathan
Anthony Spinler
Dennis Vincent



Student Officers

The Texas A&M Student Branch has elected a new slate of officers for the coming year:

Chairman - Tim Aranki
Vice Chair - Michelle Barthlow
Treasurer - Eric Peddicord
Secretary - Dave Smith
SEC Rep.- Shauna Kunkel
Publications Director - Jennifer Georgie
Speaker Director - Gary Seidel
Social Director - Kirk Jessop

They have promised to keep us up to date on their activities during the year. Anyone interested in helping out with Section support for their programs should contact Steve Zobal, our College Liaison Committee Chair (281-326-1223)

A letter from the Program Chair:

As this year's Program Chair, I would like to invite you to become

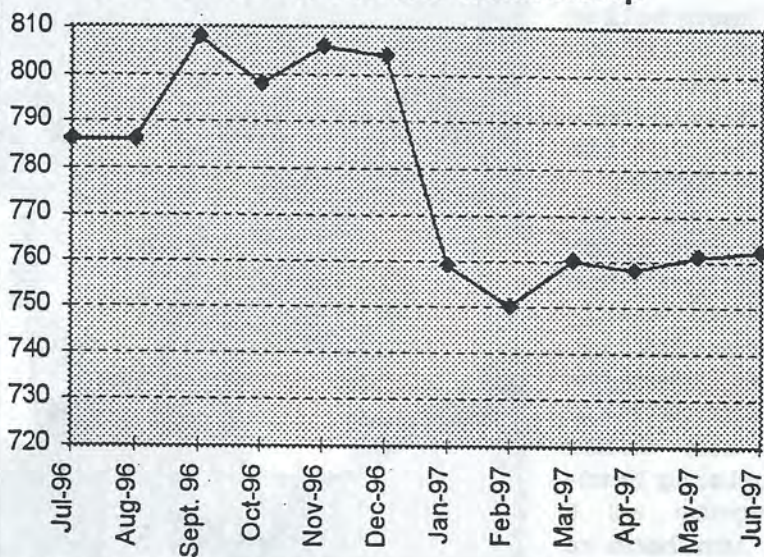
involved with YOUR AIAA section. The Houston section is one of the world's largest AIAA sections and serves the core of the US space indus-

try. With all our composite resources we should be accomplishing tremendous deeds, perhaps even endeavoring challenging projects like assembling a kit plane...

Whatever your vision is of the AIAA, you are invited to share it with the council. Our section is run by members who've volunteered there time because they want to improve our section. Personally, I became involved because I would like to get more out of my membership fees.

If you would like to get

AIAA Houston Section Membership



involved, there are numerous ways to help.

First, we need feedback. Simple feedback like which programs you've enjoyed the most, or programs you'd like to see helps greatly. Maybe you've heard of a fascinating presentation that some other technical society or another AIAA chapter presented?

Probably the hardest job as Program Chair is finding tried and true presentations of interest so I welcome all the suggestions I can get; especially new and creative suggestions. Finally, being a section with over 800 members, we welcome assistance from members. Even simple tasks like taking phone reservations helps greatly but we also need new and creative minds to serve as officers for next year. So, now is the time to call and find out more about your AIAA chapter.

Hope to see you at our next meeting,
Dan Selters
(dan.selters@lmco.com)
Dan H. Selters
Lockheed Martin
2400 NASA Road One, MC C87
Houston, Texas 77058
281-333-7312

CRANIUM CRUNCHER

After a multi-year absence the Old Cranium Cruncher is making a comeback. Each month I'll try to challenge you with a puzzle or brain teaser that's worthy of your time, and which will bring you a modicum of enjoyment. The winner each month will be chosen randomly from the pool of all correct responses received by the due date, and the winner will be presented a gift certificate for a free meal at an upcoming AIAA dinner meeting. Since I'm starting this activity on short notice, this month I'm offering a cute little mathematical sleight of hand which doesn't necessarily require you to send me a response. Hope you enjoy it! In the meantime if you have a particularly enticing puzzle you'd like to offer for the Cranium Cruncher, please send it to me via paper mail at: Norman Chaffee

Mail Code AP2

NASA-JSC

Houston, TX 77058
or my E-mail is
Norman.M.Chaffee@nasa.jsc.gov
My phone number is 281-483-3777 at JSC.

Now, here's a little numbers game for you.

Do all the following steps in order.

1. Pick a number from 1 to 9.
2. Subtract 5 (A negative number is OK).
3. Multiply the result by nine.
4. Square the remaining number.
5. Add the digits of this number until you arrive at a one-digit result (e.g.. If your number is 64, $6+4=10$, $1+0=1$).
6. If the result is less than 5, add 5. Otherwise subtract 4.
7. Multiply by 2.
8. Subtract 6.
9. You should have a single digit number at this point. Match the digit to a letter of the alphabet, such that: 1=a; 2=b; 3=c; 4=d; etc.
10. Pick a name of a country that begins with that letter.
11. Take the second letter of the country's name you chose and think of an animal species that begins with that letter.
12. Think of the color of that animal.
13. Got it? Now look on the next page.



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AIAA Calendar

ANSWER: You've got a gray elephant from Denmark! That is if you are like the majority of folks. This works because the number manipulations are designed to produce the number 4. Most people when pressed to name a country which starts with the letter 'D' respond with "Denmark". Similarly when asked to name an animal which starts with the letter 'E' come up with "elephant". Of course, most of us being engineers and rocket scientists may come up with some other rather unusual answer! If so please let me know-you need help!

Have fun! Next month will be tougher.

NOTE

This month's newsletter was put together by an amateur-with a little help from his daughter and the former editor of the NASA Area Mac User's Group newsletter the *Bit Map*.

Next month our regular editor will return after enjoying a vacation.

The AIAA Houston Section calendar provides information on all Houston Section events and other activities of interest. The listing includes Council Meeting, which are open to all members, Horizon deadlines, committee meetings, Lunch & Learn, 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 gniield@ems.nasa.jsc.gov.

SEPTEMBER

- 4 Council Meeting, 5:00PM, Center for Advanced Space Studies
- 11 Dinner Meeting, "Flight Testing the X-38", with John Muratore. Silver Moon Cafe, Space Center Houston. Social: 5:30PM, Dinner: 6:15PM, Presentation: 7:00PM
- 15 Horizon's Deadline for October Issue
- 27/ 'WINGS OVER HOUSTON' Airshow w/USAF
- 28 Thunderbirds @ Ellington Field (see story page 6) \$5 tickets available for AIAA members

OCTOBER

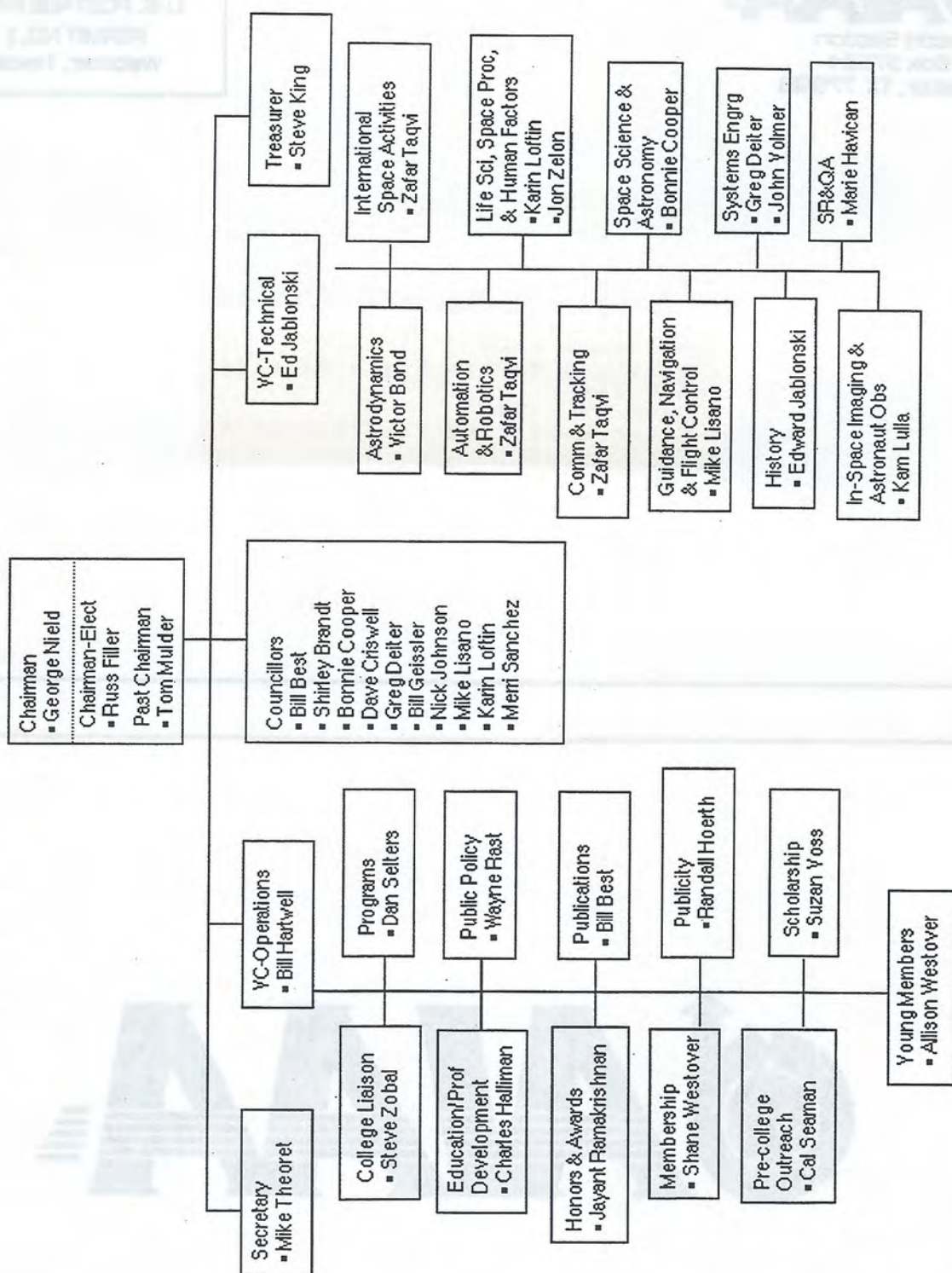
- 2 Council Meeting, 5:00PM, Center for Advanced Space Studies
- 3 Region IV RAC Meeting, Albuquerque, NM
- 9 Dinner Meeting,
- 18/ "Operation Pacific Fury" World War II commemorative and historical education event, at Galveston's East Beach (see story page 4). Limited number of FREE tickets for AIAA members and their families.
- 20 Horizon's Deadline for October Issue
- 28/ "Reusable Launch Vehicle - Human-In-Space
- 29 Workshop South Shore Harbour Conference Center. Sponsored by AIAA and Lockheed Martin.

Send Horizon's items to Bill Best
william.d.best@usahq.unitedspacealliance.com
Also don't forget to send in a short paragraph or two about your 'Lunch and Learns' so the rest of us know that the technical committees are alive and well, even if it some time after the fact.

AIAA Houston Section Organization - 1997/98

Horizons

September, 1997



8/13/97



Houston Section
P.O. Box 57524
Webster, TX 77598

Non-Profit Organization
U.S. POSTAGE PAID
PERMIT NO. 1
Webster, Texas

023645 MH -H0
Steven R King
Lockheed Martin Space Missing
M/C B14
2400 Nasa Rd 1
Clear Lake City TX 77058-3799





GEORGE NIELD
CHAIRMAN 1997-98

American Institute of Aeronautics and Astronautics

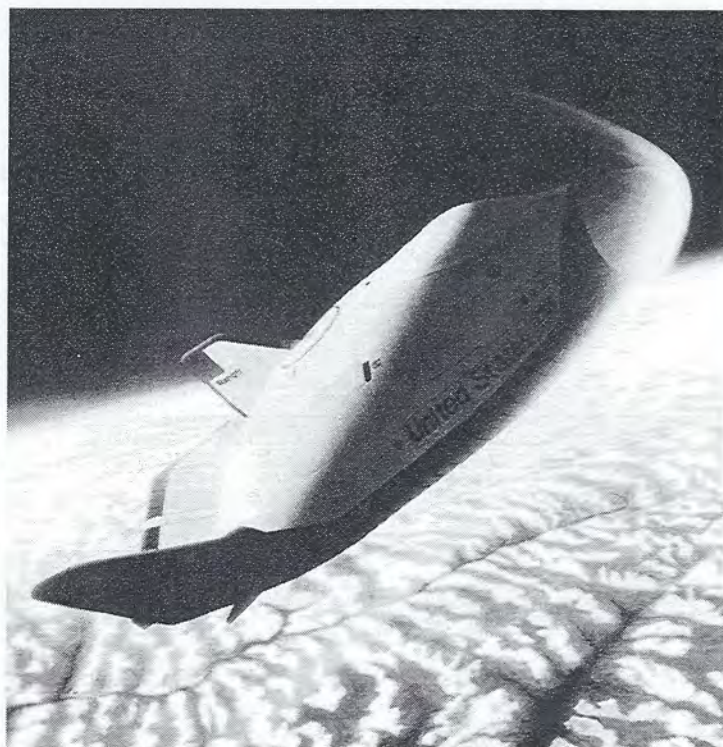
HOUSTON SECTION P.O. BOX 57524 WEBSTER, TEXAS 77598

PROGRAM/PRESENTER

Thursday, September 11, 1997

FLIGHT TESTING THE X-38

JOHN F. MURATORE
X-38 Project Manager
NASA/JSC



The X-38 is a prototype for the Crew Return Vehicle that is being planned to provide a "lifeboat" for the International Space Station. Unmanned atmospheric flight tests are currently underway at the Dryden Flight Research Facility in California. Following several captive flights, the vehicle will be dropped from a B-52 mother ship and then deploy a 6,000 square-foot steerable parafoil to enable a smooth and very precise touchdown.

John Muratore is currently serving as the Manager for the X-38 Crew Return Vehicle project. He holds a Bachelor of Science Degree from Yale, and a Master of Science in Computer Systems from the University of Houston - Clear Lake. His previous assignments have included Development Manager for Shuttle Launch Facilities at Vandenberg Air Force Base; Space Shuttle Test and Checkout Engineer at KSC; and Space Shuttle Flight Controller, Flight Director, and Chief of the Control Center Systems Division at JSC.

DINNER MEETING

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

BEEF TIPS/TURKEY BREAST BUFFET

MEMBERS	\$ 7.00
NONMEMBERS	\$12.00
STUDENTS	\$ 5.00

SILVER MOON CAFE SPACE CENTER HOUSTON

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 SEPTEMBER 8 COB.

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.