

Chairman's Corner

Steve Zobal
Chairman

1993 rings in a New Year of continuing change and challenge for the aerospace industry, and for you the Houston Section member. I would agree with Robert Bell, AIAA Region Director for Membership and Education, when he stated in a holiday greeting to all AIAA Region and Section Volunteers:

"In this time of change in the aerospace industry, local activities are especially important in providing all members that element of continuity so important in making them feel a part of something. At the same time, (I) recognize that it can be a significant struggle to motivate others to participate in activities during times like these. The strongest Sections are those who see the present challenges as an opportunity to inform and assist previously inactive members with local activities and use their skills to develop new and exciting activities."

I believe the Houston Section is one of those strong Sections. With your continued support, we can make the most out of these changing times and become a stronger and better organization because of it.



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AIAA Employment Assistance Program

Steve Zobal
Chairman

Here's a look at some of AIAA's employment assistance programs and some utilization statistics. Contact Steve Zobal or Audrey Schwartz for more information.

- The **booklet** *Job Hunting: 9 Steps to Success*, furnished **free** to active members of AIAA upon written request.
- Many members are unfamiliar with the AIAA policy of charging **reduced dues to unemployed members**. If a member is unemployed when he receives his dues invoice, he or she can simply turn the invoice over and write that he or she is currently unemployed. On the front of the invoice, change the amount paid to \$25.00. This amount will be credited as full payment for your next year's dues. Then resume your regular dues when you find employment.
- Unemployed or about to be unemployed members with at least one year of professional or military experience can run a free, one time position sought advertisement in the "**Available for Employment**" column, a regular feature in the Bulletin section of *Aerospace America*. Write to Dept. W.A., Member Services for program guidelines and an advertisement format form.

(continued on page 2)

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 Engineering and Sciences Company. Please address all correspondence to the Vice-Chairman of Operations, Audrey Schwartz, JSC/IA121, or to the Editor, Lou Livingston, 1911 Pepper Hill, Houston, TX 77058.

Employment Assistance (cont.)

- A **bulletin board** is available to members at each of over 20 yearly technical meetings for the placing of positions sought information.
- Through the **On-Line Career Fair**, sponsored by Response Technologies Corporation, a member can discreetly evaluate local, national and international positions in engineering, computers, sales/marketing and finance. The On-Line Career Fair is simple, confidential and it's FREE. Just dial 603/432-2742, press Return twice and key in the password "NEW JOB" (1200/2400 baud). You can upload your résumé, fill out an on-line application or you can mail your résumé directly to the companies of your choice. ☺

Employment Program Statistics

<u>Program</u>	<u>Usage since program began (3/91)</u>
<i>Résumé Referral</i>	
• Number of résumés submitted	135
• Number of ads for column	160
• Number of companies requesting résumés	56
• Total number of résumés requested	269
<i>Job Guides Distributed</i> (individuals)	721
<i>Corporate Job Guide Orders</i> (number of copies)	1118

Operations Memo

Dinner Meetings

Audrey Schwartz
Vice-Chairperson, Operations

Monthly dinner meetings are the major programming activity of the Houston Section. These dinner meetings not only provide interesting speakers on a wide variety of aerospace subjects, but also offer opportunities to meet and network with other professionals from around the area.

Interestingly, dinner meetings are not "money makers" for your Houston Section. In an effort to be affordable to professionals at all levels, the Section basically "breaks even" on the dinner meeting costs.

The new year brings slightly higher prices at the Gilruth Center, which are still a bargain compared with dinner meetings at off-site locations. That means the Section will be passing on the costs to members—but not a lot. Prices will increase only about \$1 in all categories. Starting in January, members will pay about \$9 and nonmembers \$10 for dinner meetings. The Section will still subsidize student and young member costs of \$8 to encourage students and young members, who often are just starting out financially, to reap AIAA professional development benefits.

To qualify for the student price, a person must be an AIAA student member or a *full-time* high school or college student...not just a full-time professional taking college classes. "Coop" education students working a semester at JSC or at a contractor organization are eligible for the student price. To qualify as a young member, one must be 31 years old or younger. (Shucks, I know I must be getting old if I don't qualify as a young member any more, and I'm old enough to be President of the U. S.!) ☺

Also, starting in January, the Section will begin billing "no-show" reservations. Many people RSVP for a dinner meeting but do not attend. The Section must commit to Gilruth for an exact headcount and is billed accordingly, whether everyone comes or not. Exceptions to the "no-show" billing will be made *only* if the person cancels the reservations *before* the posted deadline, or assigns a substitute to attend the dinner meeting.

We hope these changes in our dinner meeting policy won't inconvenience members. However, losses due to rising costs and "no-show" tend to hurt the funding for all our other professional development activities.

Thanks for understanding. Please feel free to call me with any questions at 283-5794. ☺

The Members Speak Out

Lou Livingston
Editor

Perhaps it's a bit late, with the section year almost half over, but new members should be aware, and old members are reminded, that this department exists to allow you to air your views, ask questions or voice complaints. We are looking for local or national AIAA-related topics; if you don't like the way the Rockets are playing, write the Post or the Chronicle. As a matter of policy, we also avoid partisan politics. Anonymous submissions will be ignored, but names may be withheld from publication.

If you have something on your mind, send it either to Audrey Schwartz, JSC/LA121, or to Lou Livingston, 1911 Pepper Hill, Houston, TX 77058. ☉

Committee News

News From the Technical Committees

Dick Bennett
Vice-Chairman, Technical

I am pleased to announce that Cora Carmody of PRC has taken on the chair of the Computer & Software Systems TC. Her committee has already staged its first Lunch & Learn, "Trends in Software Technology." The TCs continue to provide a series of excellent Lunch & Learn programs. To date, we have presented or have firmly scheduled a total of 14 since July 1. If you haven't attended one of these meetings, I would urge you to do so. Flyers advertising the Lunch & Learns are posted at most facilities. The *Round-Up* and this newsletter carry a schedule. If anyone out there has an idea for a Lunch & Learn that they would like to present, contact me at 283-1956. I will put you in touch with the appropriate TC chair. ☉

First Computer/Software L&L

Cora Carmody
Computer and Software Systems TC Chair

The Computer and Software Systems TC had its first Lunch & Learn on Tuesday, December 15. Jude Franklin, Chief Technology Officer and Vice-President in charge of Technology Division, PRC Inc., spoke on some implementations of advanced technology. There were 29 people in attendance as Dr. Franklin (Ph.D., Electrical Engineering) described a variety of decision support systems, expert systems, and approaches to distributed problem solving.

Dr. Franklin provided some key points for applying advanced technology—there is more payoff in automating mundane, repeatable activities such as fuel management, system configuration, and flight path management. Too often R&D activities will aim at the toughest problems, and get frustrated with both the challenges of automation and the complexity of the problem. It is far better to concentrate on clever approaches to technology—such as appropriate application of standards, sound choices of techniques, and good crossover mechanisms for technology transfer.

Dr. Franklin, who was responsible for starting the Navy's Artificial Intelligence program, described a number of projects from the Nay Research Lab, and from PRC's R&D program. Discussions of these projects may be found in a recent IEEE Expert, that Dr. Franklin guest edited, and Dr. Franklin's October 1988 article in the *Proceedings of the IEEE*, titled "Expert System Applications for the Military."

Next month, the C&SSTC will have a Lunch & Learn on January 19 at the Lockheed building at 1150 Gemini. The session, starting at 11:45, will be a panel called "Perspectives on Software Test." We have a tentative list of topics getting us to June with monthly meetings—if you have ideas, or would like to address the group, please call Cora Carmody at 282-6580. ☉

Wake-Shield Detailed

Dick Bennett
Vice-Chairman, Technical

Bill Agosto, Chairman of the Life Science & Space Processing TC, provided an insightful look at the Wake-Shield Facility at a Lunch & Learn meeting held on November 18. The operational goal of the facility is to allow materials processing in a zero-g vacuum environment several orders of magnitude below what is available with Shuttle-based facilities. The Shuttle is a source of particles which degrade the vacuum environment. The free-flying facility consists of a 12-foot diameter shield with support equipment on one side and the material processing facility on the other. During material processing, the shield will be oriented along the flight path with the processing facility behind it. The shield sweeps aside the particles in its path, producing a much lower particle density, i.e., a harder vacuum, behind the shield. Although the displaced particles will flow back into the area behind the vehicle, the speed will be sufficient to maintain the low density in the vicinity of the processing facility. The Wake-Shield Facility is expected to fly for the first time in late 1993. It will be released and moved a distance from the Orbiter, then recovered after a flight of several hours. While this first flight is primarily to provide a proof of concept, its success could become the foundation for a significant space-based industry. ☉



Events

Quality Conference Set

The first Conference on Quality in the Space Industry (CQSI), sponsored by the Aviation/Space & Defense Division of the American Society for Quality Control (ASQC) and supported by the National Aeronautics and Space Administration, is scheduled for March 1-2, 1993, at the Holiday Inn - Hobby Airport in Houston, Texas.

As one of the first conferences of its type, CQSI is designed to promote interaction and discussion of current high visibility topics affecting the quality of products and services in the space industry.

Frederick D. Gregory, Associate Administrator for the Office of Safety and Mission Quality at NASA Headquarters, will be the keynote speaker at the conference.

CQSI will feature panelists and presenters from leading corporate organizations and quality standards agencies from around the world. A partial list of participating organizations includes LORAL Space Information Systems, NASA, Lockheed Corp., McDonnell Douglas, Hughes Aircraft Co., the European Space Agency, NASDA (Japan), Thiokol Corp., IBM and the University of Texas at Arlington. Scheduled sessions are:

- Is TQM Working?
- Design Assurance (Integrated Product Development)
- Space Quality Standards (two parts)
- Advanced Quality Technology
- Space Partnering

The registration fee for CQSI is \$345 before February 15, 1993, and \$395 thereafter. For more information or to register, contact The Schneider Group, Inc., 6701 Sanger Ave., Suite 106, Waco, TX, 76710-4254, phone 817/776-3550, fax 817/776-3767. ☉

Paris Air Show 1993 - Last Chance

J. C. Snowden

Brochures for the 1993 Paris Air Show tour are included with this issue of *Horizons* offering the members of AIAA a nine day tour of the beautiful city of Paris with daily tickets for the first four days to the air show at Le Bourget airport. An optional side trip will be offered for the delegation to tour an aerospace facility in Toulouse. This side trip will be via the TGV (high speed train) from Paris to Toulouse with a one night stay in Toulouse. A complete itinerary is also included.

The delegation will leave Houston on Thursday, June 10, arriving in Paris the next day, June 11. There will be four complete days (Friday through Monday) on which you may visit the Paris Air Show at Le Bourget. A shuttle bus service and a ticket to the show on each of the four days will be provided. The tour includes:

- Round-trip direct air Houston to Paris
- 8 nights accommodation at a superior tourist class hotel with continental breakfast
- Airport transfers to the Paris Air Show at Le Bourget
- Four tickets for the Air Show (one for each day)
- Welcome get-together
- Hospitality desk at the hotel

Space is limited, so please make your reservations by January 31, 1993.

For further information call Jim Snowden at 283-0400. To reserve your place on this tour, call George Weller of Future Travel at 480-4020.

December Dinner a Success

Lou Livingston
Editor

If you were one of the few who didn't make it to the December Director's Reception, you missed a good one. Attendance was the best we have had for quite a while, which meant you got to see people you hadn't met for a long time, and the program was excellent. The principal speaker was, of course, Dr. Aaron Cohen, JSC Director. Dr. Clay Shadeck of GE Government Services was the executive host.

Dr. Cohen saw an upbeat outlook for NASA, but said that it will take work to maintain a viable program. Two points kept recurring throughout his talk: (1) We have to keep programs within cost and schedule. (2) We have to show some return on investment. Space flight for its own sake won't sell, at least in the near term.

The end of the cold war means that the space program needs a new rationale; it must show benefits for mankind to compete for scarce national resources. As budgets shrink, international cooperation in space will expand. We need to be realistic about the NASA budget; we won't get everything we want and will have to learn to make do with less.

Fortunately (otherwise, there wouldn't be a manned space program) Space Station Freedom is still in the budget, but the battle isn't over yet. Another critical vote comes up next year, and if SSF doesn't stay within cost and schedule the program may not continue.

In order to maintain support, we will have to produce. Dr. Cohen thinks we have a couple of years to prove ourselves.

Also Noted

Inquiry for Interest in International Journals

Larry Friesen
International Space Activities Committee

Some of you may have scanned the list of international journals available in the JSC Technical Library which was published in the December *Horizons*. This is an inquiry to the membership: are there other non-U.S. periodicals, not currently carried by the Technical Library, which would be useful to your work, and which you would like to have available? If there is a large enough demand for a journal or journals, we might be able to persuade the Technical Library to start subscribing. Or, if the Technical Library for some reason will not do so, the Houston Section might undertake to subscribe, and work out arrangements for housing the journal and making it available to those who need it.

If anyone wishes to express an interest in a non-U.S. journal not currently available at the JSC Technical Library, you may contact me at LESC:

Mail code B12
Phone 333-6799
E-Mail LOCK::FRIESEN

I will need the title of the periodical and the country of origin. It would also be helpful to provide the address of the publisher and the subscription price. ☉

Season's Greetings

Walt Lueke

Hello to all my AIAA Houston Section friends. Hope you all had a good Christmas and New Year's holiday! As you may know, I'm on TDY to NASA Hq. until August 1993. Please feel free to say "Hello" if you are in Washington, D.C. My mailing address is Walt Lueke/DO, NASA Hq., Washington, D.C. 20546. I'm located in FOB 10B, room 326B, phone 202/453-8082. Keep up the good AIAA work! ☉

AIAA Calendar

The AIAA Calendar is intended to encompass all Houston Section events and significant dates. This includes Executive Council meetings, which are open to interested members, and *Horizons* deadlines. It will also include committee meetings, Lunch & Learns and similar events if *Horizons* hears about them in time for inclusion. Please send details either to Audrey Schwartz, JSC/IA121, or to Lou Livingston, 1911 Pepper Hill, Houston, TX 77058.

January 1993

5 - Tuesday

Automation & Robotics TC.

"Redundant Manipulators: Geometry of Singular Configurations," Dr. Nazareth S. Bedrossian, Draper Laboratory.

JSC Gilruth Center, room 206, 11:30 AM.

Information: Dr. Zafar Taqvi, 333-6544.

21 - Thursday

Executive Council meeting.

MDSSC, 1300 Bay Area Blvd., Rm. A-119, 5:00-6:15.

25 - Monday

Inputs due COB for February *Horizons*.

28 - Thursday

Monthly dinner meeting.

"Key Decisions in Aerospace History," Bob Young, Vice-President, McDonnell Douglas.

Executive host: Tom Kloves, General Manager, Dual, Inc.

JSC Gilruth Center, 5:30/6:30/7:30.

February

2 - Tuesday

Automation & Robotics TC.

"Control of an Underactuated 2-Link Manipulator," Dr. Nazareth S. Bedrossian, Draper Laboratory.

JSC Gilruth Center, room 206, 11:30 AM.

Information: Dr. Zafar Taqvi, 333-6544.

18 - Thursday

Executive Council meeting.

MDSSC, 1300 Bay Area Blvd., Rm. A-119, 5:00-6:15.

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AIAA Calendar (cont.)

22 - Monday

Inputs due COB for March *Horizons*.

25 - Thursday

Monthly dinner meeting.

"Engines of Our Ingenuity," Dr. John Lienhard, University of Houston.

JSC Gilruth Center, 5:30/6:30/7:30.

March

18 - Thursday

Executive Council meeting.

MDSSC, 1300 Bay Area Blvd., Rm. A-119, 5:00-6:15.

24 - Wednesday

Monthly dinner meeting.

Program TBD.

JSC Gilruth Center, 5:30/6:30/7:30.

29 - Monday

Inputs due COB for April *Horizons*.

April

22 - Thursday

Executive Council meeting.

MDSSC, 1300 Bay Area Blvd., Rm. A-119, 5:00-6:15.

26 - Monday

Inputs due COB for May *Horizons*.

29 - Thursday

Monthly dinner meeting.

Program TBD.

JSC Gilruth Center, 5:30/6:30/7:30.

May

20 - Thursday

Executive Council meeting.

MDSSC, 1300 Bay Area Blvd., Rm. A-119, 5:00-6:15.

24 - Monday

Inputs due COB for June *Horizons*.

27 - Thursday

Monthly dinner meeting.

Program TBD.

JSC Gilruth Center, 5:30/6:30/7:30.

June

17 - Thursday

Executive Council meeting.

MDSSC, 1300 Bay Area Blvd., Rm. A-119, 5:00-6:15.

24 - Thursday

Monthly dinner meeting.

Annual Honors and Awards banquet.

JSC Gilruth Center, 5:30/6:30/7:30.

CLCTS Calendar

The Clear Lake Council of Technical Societies Calendar includes non-AIAA events of possible interest to Houston Section members. AIAA events are listed in the AIAA Calendar.

January

4 - Monday

NASA Area Macintosh Users (Group) "NAMU."

Works 3.0 demo by Microsoft.

RSOC Cafeteria, 600 Gemini, 7:00 PM.

Information: 488-2262.

5 - Tuesday

LPI Brown Bag Series.

"The Inrefutable Case For A Water-Rich Mars," Dr. Stephen Clifford, LPI.

LPI, 3600 Bay Area Blvd., Hess Room, noon.

Information: Dr. Tomasz Stepinski, 486-2170.

American Society for Quality Control (ASQC).

"Quality in Purchasing."

Ramada King's Inn, 1301 NASA Rd. 1, 5:00/6:00/7:00.

Information: Gary Ong, 473-3231.

8 - Friday

LPI Colloquium Series.

"The Dirigible And The Shuttle: Or, They Seemed Like A Good Idea At The Time," Prof. Alexander Dessler, Rice University.

LPI, 3600 Bay Area Blvd., Berkner Room, 3:00 PM.

Information: Dr. Tomasz Stepinski, 486-2170.

11 - Monday

National Space Society Clear Lake Chapter monthly meeting.

JSC Gilruth Center, m. 202 (?), 7:30 PM.

Information: Marianne Dyson, 486-4747.

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CLCTS Calendar (cont.)

13 - Wednesday

CLCTS monthly meeting.
LPI, 3600 Bay Area Blvd., 11:45 AM.
Information: Andy Lindberg, 483-1474.

Interleaf Houston Users Group (IHUG) monthly meeting.
JSC Gilruth Center, 6:30/7:00/7:30; \$7.00.
Reservations: Dodie Hall, 283-0325 by January 6.

15 - Friday

LPI Colloquium Series.
"Isotopic Chronology Relevant To The Solar Nebula,"
Dr. Frank Podosek, Washington University.
LPI, 3600 Bay Area Blvd., Berkner Room, 3:00 PM.
Information: Dr. Tomasz Stepinski, 486-2170.

19 - Tuesday

ASQC Executive Committee meeting.
Tutorial: Attributes Controls Charts.
Boeing Bldg., 1045 Gemini.
Information: Beverly Curtice, 474-1048.

20 - Wednesday

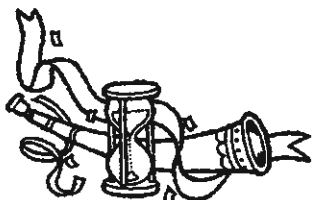
Houston Space Business Roundtable monthly luncheon.
University of Houston Hilton, 4800 Calhoun,
11:30/12:00.
Information: Wayne Esser, 333-3703.

21 - Thursday

IEEE Galveston Bay Section monthly meeting.
Program TBA.
JSC Gilruth Center, 11:30/12:00.
Information: Marcia Taylor, 483-0195.

Clear Lake Area SigAda membership meeting.
Mario's Pizza, 618 NASA Rd. 1, Webster, 11:45 AM.
Non-members \$2.
Information: Candy Mathiasen, 282-3086.

AMIGA Users Group meeting.
Micro Search, 2402 Bay Area Blvd., 7:00 PM.
Information: Carroll Moore, 483-0259.



22 - Friday

LPI Colloquium Series.
"Tektites At K/T Boundary Site, Beloc, Haiti," Dr. Haraldur Sigurdsson, University of Rhode Island.
LPI, 3600 Bay Area Blvd., Berkner Room, 3:00 PM.
Information: Dr. Tomasz Stepinski, 486-2170.

26 - Tuesday

Bay Area PC Organization (BAPCO) monthly meeting.
"Fox Databases," Meg Sung, Fox Software Division of Microsoft.
League City Bank & Trust, 303 E. Main, 7:30 PM.
Information: Steve Medcalf, 554-2300.

28 - Thursday

Society for Computer Simulation (SCS) monthly meeting.
Program TBA.
Lockheed Plaza 3, 1150 Gemini, 11:45-12:45.
Information: Wade Webster, 282-6589.

29 - Friday

LPI Colloquium Series.
"Galactic Dynamo—The Vision and the Reality," Dr. Günther Rüdiger, Astrophysical Institute, Potsdam, Germany.
LPI, 3600 Bay Area Blvd., Berkner Room, 3:00 PM.
Information: Dr. Tomasz Stepinski, 486-2170.

February

2 - Tuesday

American Society for Quality Control (ASQC).
Program: "Quality in Education."
Ramada King's Inn, 1301 NASA Rd. 1, 5:00/6:00/7:00.
Information: Gary Ong, 473-3231.

16 - Tuesday

ASQC Executive Committee meeting.
Tutorial: "SPS for Short Production Runs."
Boeing Bldg., 1045 Gemini.
Information: Beverly Curtice, 474-1048.

Please send information about your meetings to:

Bill Best 283-0261
RSOC/R12A-130
600 Gemini
Houston, TX 77058

Registration Form
Space Frontier Conference II
"Opening the Space Frontier"
February 6-7, 1993

Name _____

Address _____

Phone _____

Payment

Current Foundation Supporter Conference Fee*

____ Early Registration (Before January 23) - \$75

____ Late Registration - \$90

New Foundation Supporter Conference Fee**

____ Early Registration (Before January 23) - \$95

____ Late Registration - \$110

Banquet and all other meals included in either registration fee.

TOTAL ENCLOSED \$ _____

* *Foundation supporters are those who have contributed \$25 or more to the Foundation since January 1, 1992.*

** *Includes Foundation supporter fee.*

Please make checks payable to Space Frontier Foundation and mail to: Space Frontier Foundation, P.O. Box 266151, Houston, TX 77207-6151.

Banquet registration only

Space Frontier Award Banquet

Honoring Founders of the International Space University
Saturday, February 6, 1993
Houston Hobby Hilton

Number of Tickets _____

TOTAL ENCLOSED \$ _____

(\$50 per person by January 23; \$60 thereafter)

Space Frontier Conference II

"Opening the Space Frontier"

February 6-7, 1993
Houston Hobby Hilton
Houston, Texas

GENERAL INFORMATION

Registration: Please complete and return the attached registration form as soon as possible. Registration deadline is February 3, 1993. Cancellations must be made in writing by January 25, 1993, and incur a \$25 processing fee.

Meals Included in Registration Fee: Continental breakfast, lunch, and formal dinner on Saturday as well as continental breakfast and lunch on Sunday are included in your conference fee.

Accommodations: This conference will be held at the Houston Hobby Hilton in Houston, Texas, across from Houston's Hobby Airport. Rooms are \$61 per night plus tax. The Hobby Hilton provides a shuttle between the hotel and Hobby Airport. Reservations may be made directly with the hotel by calling 1-800-HILTONS.

Weather: Houston weather in February is typically cool with a wide range of sunshine and rain. Conference attire is informal, but please bring semi-formal attire for the banquet.

For additional information, contact Jerry Drake, Conference Chair, (713) 933-7783.

ABOUT THE SPACE FRONTIER FOUNDATION

The Space Frontier Foundation is a grassroots organization of American citizens dedicated to opening the space frontier to human exploration and settlement as rapidly as possible.

Our goals include the protection of the Earth's fragile biosphere and the creation of a better and more prosperous life for each generation by utilizing the unlimited energy and material resources of space.

Our purpose is to ensure that our entire nation unleash the energy and imagination of American Free enterprise to lead a united humanity into the solar system.

PURPOSE

The Space Frontier Conference will bring together Americans committed to opening the space frontier as rapidly as possible. The conference's presentations and workshops are designed to enable the participants to create a new strategy for achieving the human settlement of space.

FEATURED SPEAKERS

- **Peter Diamandis**
Founder, International Space University
Senior Vice President & Founder, International Microspace
- **William Gaubatz**
DC-X program director at McDonnell Douglas
- **Andrew Lawler**
Space News Staff Writer
- **Jim Muncy**
Chairman of the Board, Space Frontier Foundation
- **Bill Nash**
Vice President of Space Industries, Inc.
- **Tom Rogers**
Founder & Chairman of the Board, External Tanks Corporation
Member of NASA Space Program Advisory Council

(Not all speakers had been confirmed by press time.)

AWARD RECIPIENTS

Peter Diamandis
Todd Hawley
Bob Richards

Founders of the International Space University

PROGRAM SCHEDULE

Saturday February 6, 1993

- 8:00 - 9:00 am Continental breakfast
- 9:00 - 9:10 am Opening Remarks & Welcome
- 9:10 - 9:40 am "The Case for a New American Space Agenda"
Jim Muncy
- 9:40 - noon Session I - "The Year in Review: Recent Advances and Setbacks in Opening the Space Frontier"
Bill Nash, Mark Carreau, Andrew Lawler
- Noon - 1:30 pm Luncheon I - "The Clinton Administration & Space Policy"
- 1:30 - 2:40 pm Session II, Section 1 - "Market Driven Approaches to Commercial Space Business / The Next Decade: Unmasking & Harnessing Today's Private Industry & Markets"
Charlie Chafer, Jason O'Neil, Dennis Myers
- 2:45 - 3:45 pm Session II, Section 2 - "Year 2003 and Beyond — New Directions for the Next 10 Years"
David Criswell, Jason O'Neil
- 4:00 - 5:00 pm Session II, Section 3 - Panel Discussion: "Specific Steps"
- 7:00 - 10:00 pm Space Frontier Award Banquet

Sunday February 7, 1993

- 8:30 - 9:30 am Continental breakfast
- 9:30 - 11:30 am Session III - "The Status of the Space Frontier Foundation and its Projects"
Bob Werb, Rick Tumlinson, Pat Gibbs, Jill Steele-Mayer
- 11:30 - 1:00 pm Luncheon II - "Access to the Space Frontier"
William Gaubatz
- 1:00 - 3:30 pm Session IV - "Cheap Access to Space"
Foundation Project Workshop
- 3:30 - 4:00 pm Closing Remarks

RESERVE BY MAIL*

PARIS AIR SHOW - AIAA

1. PERSONAL INFORMATION (Please Print Clearly)

Name(s): _____
AIAA Member NO: _____ Mailing address: _____
City: _____ State: _____ Zip Code: _____
Phone: Home (____) _____ Business (____) _____

IF ADDRESS FOR OTHER MEMBERS OF YOUR PARTY DIFFERS FROM ABOVE, OR YOU HAVE A SECOND MAILING ADDRESS, PLEASE ATTACH INFORMATION.

***ELIGIBILITY:** Membership in the delegation is open to all AIAA Members, Member applicants, and their accompanying spouses/companions.

2. OPTIONAL TOURS (Please Check One)

- A. TOULOUSE EXTENSION:** A one night, two day trip to Toulouse via French Rail (TGV). Price includes: one night accommodation in Toulouse; private bus transportation airport to hotel; visit to the Aerospatiale-ariane factory; round-trip transportation Paris/Toulouse.
\$290.00 per person, based on double occupancy; \$25.00 single supplement.
- B. PARIS ART HIGHLIGHTS:** A 1/2 day guided tour of Notre Dame & Louvre Museum. Duration: approximately 3 and 1/2 hours.
\$49.00 per person.

TOLL-FREE!

For Additional Options & Prices Call

1 (800) 544-4998

3. SPECIAL FEATURES (Select Those You Prefer)

- Single Occupancy (Supplement \$700) Double Occupancy Triple Occupancy (subject to availability)
 I would like to be matched with a roommate Please send me information on your Roommate Matching Policy
 I am sharing my room with: _____
 Non-Smoking Section Smoking Section

4. PAYMENT (Select The Plan That's Best For You)

- I am enclosing a check payable to Future Travel for _____ (\$300 per person) as deposit. I understand my deposit will be refunded less a \$50 per person administration fee if I cancel my reservation at least 60 days prior to departure, when final payment is due.
- Please charge my deposit to: MasterCard VISA American Express. I understand my total price for the tour package is **\$1950.00** if payment is with any of these credit cards.
Account number: _____ Name of cardholder: _____

Expiration date: _____ Signature (for charge card authorization): _____

- I am enclosing payment in full for _____ person(s) at \$ _____
I/We have read and understand the Tour Participant Agreement and agree to its terms:

Signature(s): _____

TOUR PARTICIPANT AGREEMENT

Responsibility: Future Travel, Inc. and its sponsoring organization-AIAA, act ONLY as agents for the suppliers or contractors of the services described herein, including, but not limited to airlines, suppliers of hotel accommodations, transportation and other tour related services provided to the tour participant. Future Travel and its agents assume no liability or responsibility for any injury, damage, loss, accident, delay or irregularity with respect to persons or property occasioned by any cause whatsoever, whether direct or indirect, beyond Future Travel's or its agents' control. Future Travel and its agents reserve the right to change the itinerary of a tour without notice, including but not limited to hotel accommodations or airlines. Future Travel will not be responsible for costs incurred by passengers resulting from delays or schedule changes. In the event alteration in the itinerary, accommodations, transportation or other services to be provided to the tour participant becomes necessary, substitutions will be of comparable quality. Future Travel reserves the right to increase the tour price in the event of cost increases due to changes in airfares, currency fluctuations or fuel surcharges and all such increases are to be paid to Future Travel by the tour participant upon notice to the tour participant of such increase within ten days of such notice. Future Travel reserves the right to cancel a tour at any time prior to departure and refund the monies in full settlement of its obligations, and decline, accept or retain any person as a member of a tour at any time. If any participant is removed from the tour, a proportionate refund for unused services shall be made by Future Travel. The carriers concerned are not to be held responsible or liable for any act, omission, or event during the time tour participants are not aboard their conveyance. Future Travel will assume no financial responsibility for any cancellations or delays resulting from invalid passports or other travel document requirements. Reservations/Final Payments/Cancellations: Reservations are confirmed upon receipt of a deposit of \$300 per person. Final payment must be made at least 60 days before your departure. Prices stated are per person and based on double occupancy. On airland programs, in the event it becomes necessary for you to cancel your reservation, there will be a cancellation charge of \$300 per person for cancellations received from 59-31 days prior to departure. The charge for cancellations received from 30-15 days prior to departure is \$1,000 per person. Cancellations received, in writing or by telegram (indicating the reason for cancellation) by Future Travel 60 days prior to departure are subject to an administration charge of \$50 per booking. Optional Trip Cancellation/Travel insurance is highly recommended. Reservations cannot be altered less than 60 days prior to departure. Requests for refunds or cancellations must be made in writing or by telegram. The cost of this vacation package is based on group promotional tariffs and foreign exchange rates in effect as of November 1, 1992. Enrollment in this tour and deposits paid by the tour participants constitute agreement to the above terms and conditions of travel. *The above Responsibility Clause also applies to the sponsoring organization. Prices quoted are in U.S. dollars.

OUTSTANDING SECTION AWARD

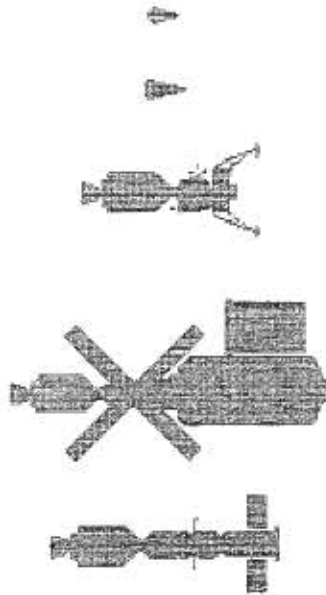


1975-1976
1976-1977
1979-1980
1980-1981
1981-1982
1983-1984
1986-1987
1988-1989

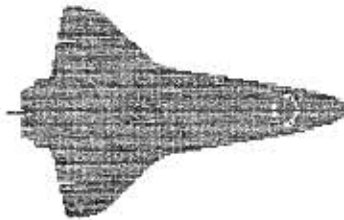
SECTION SPECIAL EVENT AWARD



1971-1972
1972-1973
1979-1980
1981-1982
1983-1984
1985-1986
1988-1989



AIAA Houston Section
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Webster, TX 77598



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STEVE ZOBAL
CHAIRMAN 1992-93

American Institute of Aeronautics and Astronautics

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

Thursday, January 28, 1993

**KEY DECISIONS IN
AEROSPACE HISTORY**

ROBERT F. THOMPSON
Vice President
Houston Operations
McDonnell Douglas Aerospace



PRESENTER

Bob began his career at the Langley Research Center in 1947 as an aeronautical research engineer. In 1958, he was named to the Space Task Group which became the nucleus of the NASA/JSC. As the Chief of Landing and Recovery he was responsible for planning and directing activities of worldwide recovery operations during the Mercury and Gemini programs. In 1966, Bob was appointed manager of the newly established Skylab Program Office, where he managed the first space station program through the design and development phase. He assumed the duties of Space Shuttle Program Manager in 1970. He held this position until his retirement from NASA following the first Shuttle orbital flight in 1981. Following his retirement from NASA, Bob joined McDonnell Douglas where in 1984 he assumed the duties of vice president and program manager of the Space Station Division. Bob was promoted to an assignment on the President's staff in 1992, pending his retirement in April 1993. He is a Fellow, AIAA.

Executive Host

Tom Kloves
General Manager
Southwest Operations
DUAL, Inc.

DINNER MEETING

SOCIAL: 5:30
DINNER: 6:30
PROGRAM: 7:30

MENU: CHICKEN CALIFORNIA

MEMBERS & SPOUSES	\$9.00
NONMEMBERS	\$10.00
STUDENTS/YOUNG MEMBERS	\$8.00

**AIAA HOUSTON SECTION MEETINGS
ARE HELD AT THE JOHNSON SPACE CENTER
ROBERT R. GILRUTH RECREATION CENTER**

Frankie Hap
333-6064
Lockheed

Ardell Broussard
283-4214
McDonnell Douglas

Kim Wunsch
483-1350
RSOC

Sarah Leggio
282-3160
Bendix

**CALL ONE OF THE ABOVE FOR RESERVATIONS.
DEADLINE IS MONDAY, JANUARY 25, AT 12:00 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.



American Institute of Aeronautics and Astronautics

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

AIAA-HOUSTON SECTION

18th ANNUAL TECHNICAL SYMPOSIUM

CO-HOSTED BY

THE UNIVERSITY OF HOUSTON-CLEAR LAKE HIGH TECHNOLOGIES LABORATORY

THEME: MAN IN SPACE-MAINTAINING THE MOMENTUM

MID-MAY, 1993

AT THE

UNIVERSITY OF HOUSTON - CLEAR LAKE

CALL FOR ABSTRACTS

DUE: MARCH 15, 1993

GUIDELINES FOR ABSTRACTS AND PRESENTATIONS

1. Subject of your choice on space activities. Suggested topics include: Communications Systems, Computer and Software Systems, Energy Systems, Simulation, Materials, Structures, Dynamics, Space Systems, Guidance, Navigation and Control, Life Sciences, Management, International Space Activities, Flight Mechanics, Space History, Human Support, Fluid Dynamics, Earth Observation, On-Orbit Observation, and Thermal Physics
2. The abstract should be 250 words or less. (Abstracts must be typed double spaced. Floppy discs are strongly encouraged; see attached example for format.)
3. Presentations should be 10 to 15 minutes. VU-graphs or 35 mm slides are preferred.
4. Formal publication is not required. However, please have handouts available at your presentation.
5. Include with your abstract:
 - Completed NASA Form FF427
 - All information on attached example
6. Submit abstracts or inquiries to:

**Dick Bennett, AIAA Vice-Chairperson, Technical
MDC / 314CA
16055 Space Center Blvd., Houston, TX 77062
(713) 283-1956**

EXAMPLE

ARC-JET TESTING TO EVALUATE THE EFFECTS OF CONTINGENCY TRAJECTORIES ON THE ORBITER THERMAL PROTECTION SYSTEM

**T. G. Pendergast
I. Norman
D. C. Chao
J. D. Milhoan*
D. M. Curry***

**Rockwell International
*NASA/Johnson Space Center**

A study to extend the orbiter contingency transoceanic abort landing (TAL) ranging capability to avoid a ditch/bailout is in progress. Some contingency entry trajectories that require lower angles of attack will cause high aeroheating rates on the shuttle thermal protection system (TPS).

This presentation will describe the low angle of attack entry trajectories being considered and the major problems incurred on the orbiter TPS. The surface entry environment that results from these trajectories may cause some mass loss of the carbon heat shield. A technical literature survey indicates the mass loss rate and surface recession depend on the surface temperature, pressure, enthalpy, chemical reactivity of the gaseous boundary layer, the flow geometry and the chemical reactivity of the carbon heat shield.

A program at the JSC Arc-Jet facility has been planned to investigate, by testing, carbon mass loss and performance of reinforced carbon-carbon (RCC) using RCC coated (TEOS/TYP E A) and uncoated test specimens. This presentation will discuss the status of testing and test philosophy.

**Presenter: T. G. Pendergast
Phone Number: 483-XXXX
Mail Code**

EXAMPLE

**HOUSTON SECTION AMERICAN INSTITUTE
OF AERONAUTICS & ASTRONAUTICS**

presents

THE PARIS AIR SHOW

as low as

\$1895*

from Houston

Departing: Thursday, June 10, 1993 - Returning: Saturday, June 19, 1993

*Per person based on double occupancy

**FOR RESERVATIONS CALL FUTURE TRAVEL
(713) 480-4020**

For your convenience our Reservation Agents are available

Weekdays: 8:00am - 6:00pm CST

RESERVE IN PERSON: Come by our Corporate Headquarters located at 16850 Diana Lane, Houston, TX
77058

FAX your application to: (713) 480-2587

**MAKE SURE ADDRESS
SHOWS THRU "WINDOW"**

AIAA - FUTURE TRAVEL
RESERVATIONS CENTER
16850 DIANA LANE
HOUSTON, TX 77058



Bonjour Paris

AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS (AIAA) HOUSTON SECTION

VISIT OF PARIS AIR SHOW AND FACILITY OF AEROSPATIALE TOULOUSE

ITINERARY:

Day 1, June 10, Thursday: Depart Houston Intercontinental on Air France flight #35 at 1115PM non-stop to Paris. A hot meal will be served enroute.

Day 2, June 11, Friday: Arrive Paris Charles De Gaulle airport at 3:25PM. Transfer via private bus to your hotel. This evening a welcome get-together/reception will be conducted.

Days 3,4,5,6, Saturday, Sunday, Monday, Tuesday: A private bus will be available to take you to the Air Show and back to your hotel.

For those of you not wanting to go to the Air Show on a daily basis, a private half-day sightseeing tour will be provided at no additional cost. Other optional tours are also available.

Day 7, Wednesday: Optional trip to Toulouse will depart Paris via TGV Rail at 7:05AM, arriving in Toulouse at 12:08PM. Afternoon free for touring/shopping. Overnight at hotel in Toulouse.

Day 8, Thursday: After breakfast a private bus will take you on a tour of a French Aerospace facility. Return to Paris via TGV Rail departing Toulouse at 5:21PM, arriving Paris 10:30PM.

Day 9, Friday: A full day to enjoy Paris - plenty of time for more sightseeing/shopping or taking in the Paris night scene.

Day 10, Saturday: Transfer via private bus to Charles De Gaulle Airport for your Air France flight #36, departing Paris at 11:10AM and arriving Houston Intercontinental at 2:40PM. Dinner and snack will be served on your flight.
WELCOME HOME!

**TOUR PRICE: \$1895.00 per person - double
\$ 700.00 single supplement**

PRICE INCLUDES:

- Tourist class round-trip air from Houston to Paris via Air France
- 8 nights accommodation at a Superior Tourist class hotel, based on two persons sharing a twin-bed room with private bath/toilet facilities.
- Continental breakfast daily
- Airport transfers to and from hotel
- Portage of one bag per person
- Private Shuttle bus transfers from hotel to the Paris Air Show at Le Bourget airport
- 4 tickets for the air show (first 4 days only)
- Welcome get together reception
- Hospitality Desk at your hotel

OPTIONAL TOUR PACKAGES:

- A. A one night, two day trip to Toulouse via French Rail (TGV). Price of \$290.00 per person includes one night accommodation in Toulouse; private bus transportation from airport to hotel, and hotel to Aerospatiale-Ariane facility; conducted tour of the Aerospace facility; round-trip transportation Paris/Toulouse. Single supplement:\$25.00.
- B. A 1/2 day guided tour of Notre Dame & Louvre Museum. Duration: approx. 3 and 1/2 hours. Cost:\$49.00 per person.

NOT INCLUDED:

Passport. Each person must apply in person for their own passport. In Houston, recorded information regarding passports is available from the Passport Agency of the Department of State, telephone (713) 653-3160.

Items of a personal nature. Beverages and food not on the group menu, phone calls where there is a charge, laundry and dry cleaning, excursions not on the group itinerary, and all similar items of a strictly personal nature.