

Chairman's Corner

Steve Zobal
Chairman

Welcome to the 1992-93 section year! Your board and committee members are in place and are ready to serve you. The elected officers and councillors are listed below. We are looking for additional support on some of the committees—please contact any of the officers or councillors for areas of interest. A complete list of board members and committee chairs and co-chairs will appear in next month's *Horizons* in wallet card format.

This year's administration plans to build on the achievements and progress made during the 1991-92 term. Our goal is to become the leader in the Very Large Section category (1000+ membership). One measure of success is the Outstanding Section Award. The award is presented to a section judged by AIAA National to have achieved a subjective level of excellence during the year through "stimulating section activity." More important, though, is how well you, the members, perceive the section is

servicing you and the community. But we need your help. You can help us achieve our Section excellence goal by participating as a Section team member. More on our Section team concept in the following column by Audrey Schwartz, VC-Operations.

Highlights of this summer's council activity include the following:

- On June 18, 1992, the outgoing board concluded business activities for the 1991-92 term and turned over the reins to the 1992-93 board.
- A Regional Section Leadership Briefing was held in Houston on June 29 to discuss the "state of AIAA" and section operations. This was the first time the annual meeting has been held in Houston and our section incoming officers were well represented.
- On July 23, an after-hours Team Building session was conducted for incoming council and committee members with approximately 20 persons in attendance. This was a prelude to the initial 1992-93 council planning session on August 20.

Your board is enthusiastic and is looking forward to a banner year for the Houston Section!

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Behind The Board

Team Work

Audrey L Schwartz
Vice-Chairman, Operations

Are you a "circle," "box," "triangle," "rectangle," or "squiggly line"? Understanding other AIAA-Houston officers', committee heads' and councillors' "psycho-geometric" personalities was a fun and insightful part of an evening team building session hosted by Chairman Steve Zobel. The session helped build a team spirit and acknowledge that we all come to our positions with different strengths, views, interests, habits and styles.

Team work is a key emphasis for the Houston Section this year, and the Operations team is already putting its differing strengths, interests, views and styles toward a successful year. Programming through December is arranged. Work on the Regional Student Paper Competition has begun. Our newsletter and flyers are being published on time and in their usually excellent manner. And membership letters are being sent to local aerospace executives asking their support of AIAA professional development activities.

You are part of the team as well. The AIAA is *your* organization. Your elected officers and committee

volunteers want to deliver quality programs of interest to you. But we need your help. We need to hear from you about what programs, special events, tours, educational opportunities and other activities you would like to see our section offer. What speakers do you wish to hear? What public policy issues do you feel we need to address? How can we better interest students in science and math? What professional development needs do you have?

We also need your team work to help your committees with special events, such as the Regional Student Paper Competition. Sometimes, some of our committees only have one or two volunteers, and that limits the number of quality activities provided.

Call me any time with your comments, ideas, concerns, and offers of help. You may reach me at JSC (283-5794) or at home (333-5381).

Thanks, team. Looking forward to a great year!

Thanks For A Job Well Done

Dr. Zafar Taqvi
Chairman, 1991-92

My special "thank you" is in order to all the section officers and volunteers who made 1991-92 a memorable year not only for the Houston Section but for me personally. It was a rewarding experience. I never received such cooperation from so many dedicated professionals. It was the overwhelming support that gave me the motivation to continue to open the goal arena and still be able to achieve to our maximum potential.

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.

Committee News

Annual Membership Report

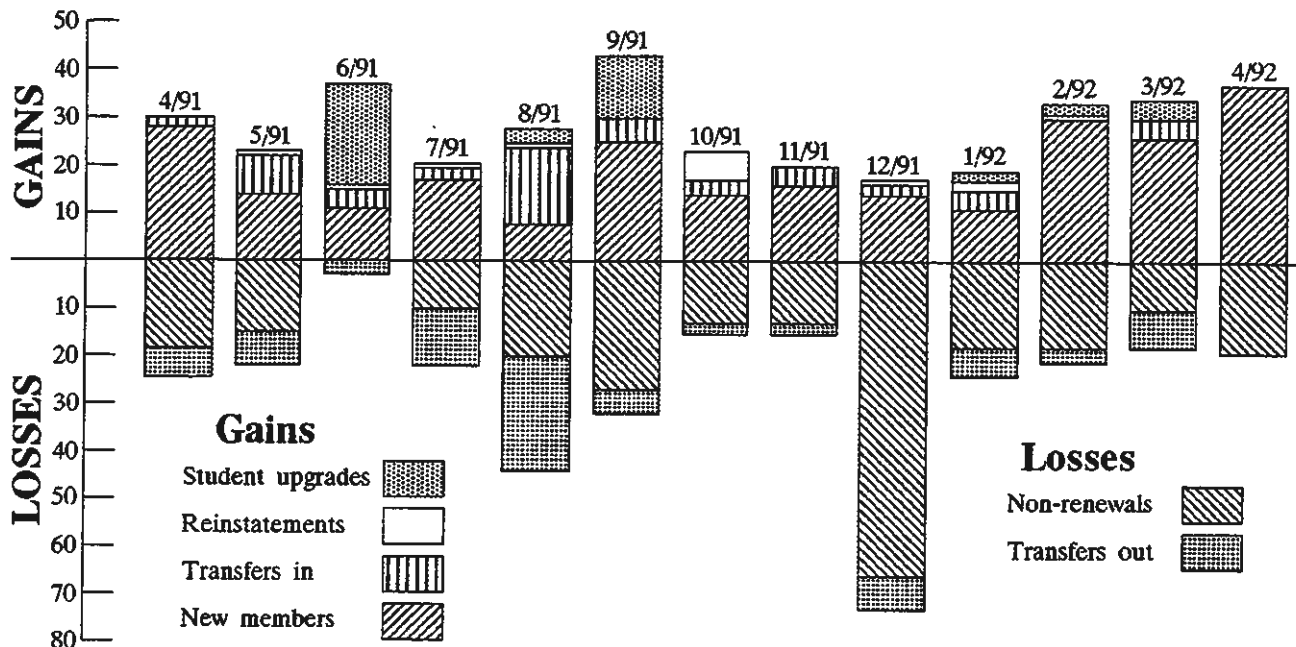
Jim Visentine
Membership Chairman

This year, the Houston Section was very successful in recruiting many new members for the Institute. Between the months of April 1991 and April 1992, our Section has grown by 251 new members. These gains, which were better than we had expected, reflect an overall growth in new membership of 21 percent. Our success is attributed primarily to the excellent programs and outstanding speakers obtained by Dr. Zafar Taqvi, our Section Chairman, and others on our Executive Council, and by Mr. William Geissler, who arranged for AIAA recruitment posters to be placed in 48 office buildings that are either owned or leased by JSC and its support contractors.

Unfortunately our membership retention program was not as successful as our new-member recruitment program. Our membership gains this year were significantly offset by non-renewing members,

who totaled 253. Considering the overall gains and losses, which are summarized in our monthly AIAA Section Change reports, our membership has increased this year by 26 members.

Why is it that so many of our members have chosen not to renew their AIAA membership? A limited sampling of non-renewing members whose names appear in our Section Change listings indicates that persons who are members longer than five years tend to retain their membership, and that persons who are members for less than five years are inclined more than others to drop their membership. I am not certain (perhaps the AIAA would be willing to conduct a more in-depth analysis for us), but I suspect that many people join AIAA for the first time to network with others, develop professional contacts, and increase their opportunities for career advancement. If, instead, these people develop other outside interests, or if their career advancement attempts are unsuccessful, they will be the first to leave the Institute. If you or your colleagues know of any reasons why a significant number of our members did not renew this year, please let me know and I will pass this important information on to our AIAA Director for Membership and Section Activities.



Committees (cont.)

The Students Are Coming

Mike Begley
Young Members/Student Affairs Chairman

This spring, the Houston Section plays host to the annual Regional Student Paper Competition. Each year, college students, mostly in engineering, commit time and much hard work to write aerospace technical papers. As host chapter, we are responsible for arranging lodging, transportation, speakers, industry tours, judging, awards, and facilitating the student presentations. This is a *major* regional affair with approximately 100 students and faculty coming to Houston from across the region. We need your help to make this year's RSPC a major success. Volunteers are needed for fund raising, judging, transportation, industry tours and many additional jobs that will come up at competition time. Get involved, and help science and engineering education in our region! Call Mike Begley at 333-6996 (office) or 480-7901 (home).

Lunch & Learn Held

Gillian Shephard
Materials, Structures & Dynamics TC

On July 29, 1992, the Materials, Structures & Dynamics TC hosted a Lunch & Learn with guest speakers from Dr. Mike West's Structural Systems Analysis group. The subject was Space Station Freedom Plume Impingement On-Orbit Loads and Dynamic Analysis. Four speakers, Reza Aghili, Dave Francis, Bill O'Herren and James Fahling, made the presentation.

Plume impingement has become a very hot topic in recent years. Over 35 people from the surrounding community came to find out what approach is being taken to resolve this problem. Reza began the Lunch & Learn by outlining the basic scenario of the Shuttle approaching the Space Station while firing primary reaction control jets to maintain position and velocity. Dave discussed plume geometry models

used for analysis. Reza and Bill discussed approach corridors, operational ground rules and component load factors. Bill continued the discussion with feathering angles and James finished off with load case selection methodology.

ISAC to be Active

Dr. Zafar Taqvi
International Space Activities Chairman

Considering the number and quality of the programs organized by the section with an international flavor, we were quite successful. Even though the programs came under two committees, ISAC and the International Space Year (ISY) Committee, the overall achievement has projected a very special international image of our section among the AIAA community.

Last year's events included a two-week technical delegation to China, a one-day International Space Activities Awareness Fair during Space Week, two special presentations by delegates from sister sections in China and India, and technical paper presentations from sister sections at our Annual Technical Symposium in May.

There were a few items on the drawing board that we could not tackle last year, but we do plan to implement them this year. Of course, it all depends on the volunteers that are interested in these activities. Some of the projects we want to initiate are:

- Establishment of sister sections in Russia, Japan, France, Germany and England
- Subcommittees for international publications/documentation, international space policy, and support of translation from other languages
- Seminars on space activities of other nations
- A special delegation to the Paris Air Show

We will be appointing individuals to head these committees soon. If you are interested in pioneering any of the above activities, please call Zafar Taqvi at 333-6544 immediately.

Been There, Done That... 25 Years Ago

Annie Platoff
History/Heritage Committee

The summer of 1967 was a busy one as the Manned Spacecraft Center continued work on the Apollo Program, as well as other activities. The *Space News Roundup* remembers this way...

Pilots Go Tarzan in Jungle School

"Twenty-one pilots from MSC were introduced to the gastronomical delights of boa constrictor, iguana, wild boar, armadillo, bamboo shoots, and other exotic jungle foods as they trained at the Air Force Tropic Survival School in Panama. After learning about tropical plants and animals, how to find water, emergency signaling, and other survival skills, the pilots were divided into 3-man teams, each equipped with an Apollo survival kit. The teams then practiced their skills as they established camp for two

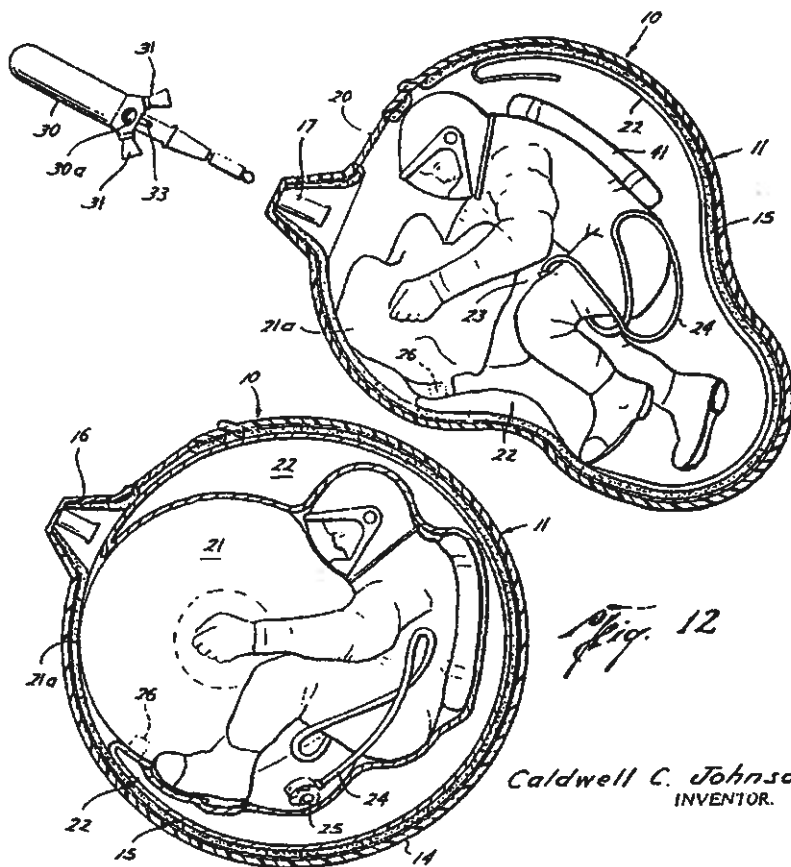
days. The only snake encountered during the jungle stay was a 5-foot fer-de-lance. Through the cooperative efforts of several individuals, it was captured and eventually found a new home in the Houston Zoo." (Excerpted, *Space News Roundup*, June 23, 1967.)

New MSC Patent Awards Include Cocoon-Like Orbital Escape Device

"C. C. Johnson of the Advanced Spacecraft Technology Division of the Engineering and Development Directorate was one of four MSC employees to be issued U. S. Patents. Johnson's orbital escape vehicle was designed to be folded and stowed aboard an earth orbiting manned spacecraft until needed to return a crewman safely to the earth's atmosphere. Comprised of a flexible casing with a zippered opening for ingress-egress, the vehicle has an inflatable bladder system for supporting the crewman and for maintaining a stable aerodynamic shape during its reentry.

"The outer surface of the vehicle is covered with a heat ablative material and the inner casing is lined with an insulative material. An astronaut garbed in an extravehicular pressure suit and backpack would unstow and enter the vehicle, switching over to the vehicle's internal oxygen system and donning a parachute and survival gear. After closing the zippered opening the crewman positions himself to work the retro-rocket assembly (using a small double-panelled window to determine preselected reference points on earth). After he fires the retrorocket, the bladders are inflated, providing a definite aerodynamic shape for a high degree of stability during reentry.

"After reentry, atmospheric pressure in the lower regions of the atmosphere will cause the bladders to automatically deflate. The crewman would then exit the vehicle and make a standard "jump" by means of the parachute." (Excerpted, *Space News Roundup*, July 7, 1967)



Been There, Done That (cont.) MSC Expands Visitor Program

"The Public Affairs Office announced recently an expanded public visitor program to accommodate the increased public interest in MSC. Visitors previously turned away at the gates, or those who have not made a prior reservation, are now referred to Building 100 where a PAO Protocol staffer is on duty to assist them with last minute reservations. A typical day showed 359 people were assisted in entering MSC who previously would have been turned away. The Sunday afternoon Special Visitor Program continues to be popular with the public. The Sunday program operates 1:00 PM through 5:00 PM and has been expanded to permit the public to view the interiors of four buildings—Buildings 5, 7-A, 12, and 29." (Excerpted, *Space News Roundup*, August 17, 1967)

The International Scene

China Delegation Returns

Lou Livingston

The 1992 Delegation from the Houston Section to the Chinese Society of Astronautics and the Shanghai Astronautical Society returned last May, and many of our members have already heard as much as they care to hear about the trip. It's worth noting for the record, however, that 17 Houston Section members and spouses under the leadership of Jim McLane left Houston May 1 for a two-week visit to Beijing, Chengdu, Xichang, Shanghai and Suzhou. The itinerary included some tourist attractions as well as visits to laboratories, factories, and a launch facility. Most of the delegates also delivered technical papers to large audiences.

The delegation included Bill and Joan Geissler, Jerry Goodman, Dr. Betty Goldsberry, Tuyen and Grace Hua, Chuck and Marge Jacobson, Lou and Edette Livingston, Jim and Dot McLane, Andy Petro,

Emyré and Mack Robinson, and Dr. Kwei and Jane Tu.

ISAAF Kicks Off Space Week

Chris Burmeister

The International Space Activities Awareness Fair (ISAAF) was held in the Gilruth Center on Tuesday, July 14. This was a free exhibition of photos, brochures and models from companies and agencies from around the world. There were an estimated 500 people in attendance. For me, it was a challenging, and usually fun, learning experience. I hope that for all involved, it was a success.

When carefully considered, any international event that this section holds provides limitless possibilities for recognition and promotion of our section. For one thing, our section has made a positive contribution to International Space Year. It is also my belief that sister sections can increase the visibility of Houston as a first class aerospace community. I cannot think of a better opportunity for beginning a sister section than to talk, in person, to a foreign representative. It works faster than a letter, and is certainly cheaper than a phone call or fax. I think that our section members who are currently involved in international activities find their experiences rewarding.

There are other benefits. One of our foreign representatives became interested enough to join AIAA. The Italian aerospace industry in the U. S. was looking for funding from their government for their promotion here. The ISAAF was *the* event that justified the additional funds. Those local companies that have an interest in doing business on an international level were able to meet representatives from over twenty countries. One pleasant surprise that I had not considered previously was the attendance of teachers who will use the supplies that they received from the ISAAF to educate their students about space.

I thank KPRC and KTRH for not only showing up at this event but also airing reports on the ISAAF.

Thanks to all the community and city newspapers which printed articles that I heard about from attendees. I especially thank the *Space News Roundup* for ISAAF promotion to the NASA community.

The following individuals are to be commended for their outstanding contributions: Jeannette Kirinich, Larry Friedl, Gonzalo Montoya, Ray Mitchell, Cathy Bole, Debra Carlblom, Andy Sylvester and André Sylvester. The ISAAF ran smoothly because of their efforts.

ISAAF representatives participating included: Günther Zehrfuchs and Peter Kotzbek, Austrian Trade Commission, Houston; Jacque Bouchez and Ingrid Virlovvet, Consulate of Belgium, Houston; Valter Bento da Silveria, Rosemary C. Schneider and Carlos A. V. Fuliene, Instituto Nacional de Pesquisas Espaciais, São José dos Campos, Brazil; Debra Carlblom, Canadian Space Agency liaison, JSC; Gordon MacLennan, Canadian Consulate, Dallas; Anna Thompson, Danish Consulate, Houston; Mr. and Mrs. Risto Setälä, Finland Trade Commission, Houston; Dominique Fritschy, French Consulate, Houston; Alain Saury and Patrick Bardel, University of Houston; Gerhard Brauer, German Space Agency, Washington, D. C.; Gabor Remetey-Fülöp, Ministry of Agriculture, Budapest, Hungary; Sivaram Arepalli and Venkat Shivakumer, Lockheed; Tek Shrini, Paramax; Ram Chavalli, Unisys; Bill Pernice and Alberto Selmi, Italian Trade Commission, Houston; Hideo Hasegawa and C. Kawamoto, NASDA, Houston; Takashi Nakazawa, JSC; Mr. and Mrs. Javier Roch, Instituto Mexicano de Comunicaciones, Mexico City; Ubo Termote, Fokker Aerospace, Alexandria, VA; Gonzalo Montoya, McDonnell Douglas; James Leavens, Swedish-American Chamber of Commerce, Houston; Scot Orgisch, Consulate-General of Switzerland, Houston; John Hother, Sira Ltd., Kent, England; Tony Hodgson, Bill Nash and Barbara Butler, Space Industries; Josu Crucelegui, Consulate of Spain, Houston; Betsy Youmans and Eve Stavros, Hernandez Engineering; Ray Pawlikowski and John Smith, CAE-Link; and Dale Johnson, John Ciciora, Frances Jones and Ray Mitchell, Johnson Engineering.

Thanks also go to Kelly Humphries, James C. McLane, Zafar Taqvi, Norm Chaffee, Clovis Solano Pereire, U. R. Rao, R. Bryan Erb, Mike and Cynthia Begley, Matt Rasimus, J. Rala, Mallik Putcha, Kesatoshi Kuraoka, Alfred Killias, Louis Parker, Peggy Nelson, Linda Copley, Charlyne Minick, Cynthia Draughton, Ava Lunsford, Frances Mount, Gloria Reilly, Ben Whitmore, Veronica Mullins, Mario Taisch, Silja Strömberg, Patrick Ribouville, Eric DeLame, Sophie Bender, Bernard Geenen, Birgit Rosengreen, Gyula Tófalvi, Harry L. Potma, E. Vannas, Sikander Saman, M. Nasim Shah, Vicente Gómez, Dr. Courvoisier, Roland Geyl, G. A. Tammann, Bill Davis, Leslie Stockton, Jean-Michel LeClerc, Gilruth Center reservations/catering (Pat, Patty and Robin), Lynn Cline, Jane Parham, M. Martin Neira, C. W. Sims, Mike Rushing, Nancy Wood, Stephanie Vickery, Frankie Hap, Kristi Rusling, Lockheed Shipping & Receiving, and U. S. Customs.

Symposium in China

Jim McLane
Sister Section Coordinator - China

Dr. George E. Miller, President of the AIAA in 1979/80, and a past NASA Associate Administrator for Manned Space Flight, will share the duties of General Chairman of an important international symposium with Dr. Ren Xinmin, President of the Chinese Society of Astronautics (CSA) next month. With the title "*International Symposium on Benefits from Space Activities*," the meeting will take place at the International Hotel in Beijing on October 11 through 14, 1992. Dr. Miller currently serves as President of the International Academy of Astronautics (IAA) which is cosponsor of the meeting with the CSA. Japan, Canada, France, Belgium and India are represented on the program committee together with China and the United States. Arrangements for the meeting are in the capable hands of Chen Rongying and Li Furong, Head and Deputy Head of the Office, CSA, respectively, who are well known to members of Houston's 1988 and 1992 technical delegations to China. An optional post symposium tour to Chengdu, Xichang and Shanghai that

China Symposium (cont.)

duplicates the route and activities of our Houston delegation last May is also offered. Although time for advance registration is short, persons interested in attending can contact me at 488-0312 for details.

Also Noted

China—A Systems Approach

Lou Livingston

By almost any measure, China has had a highly successful space program. As relative latecomers to space, and with less industrial development than most spacefaring countries, China might not have been expected to achieve success as soon as they did. Part of the reason, of course, is the fact that China is by no means as backward as we may sometimes imagine. The stereotype equating China to a billion coolies in rice paddies is only partly justified; it certainly describes a large portion of the Chinese population, but China is also an industrial nation of substantial capacity. Nevertheless, there must be more to the story than that.

Observing not only their space efforts but other aspects of the country as well during the delegation last May, two factors emerged repeatedly. First, there seems to be a systems approach to everything they do; that is, they optimize the total system (whatever it may be) rather than individual elements of the system. Second, there is a willingness to adopt the simplest solution that will get the job done. This contrasts sharply with common practice in the U. S. space program, where we have a strong tendency to continue refining a design as long as possible, if not longer.

At first glance, the Chinese way of doing things—almost anything—seems hopelessly sloppy and wasteful to Western eyes, but appearances can be deceiving. After all, their methods have worked for thousands of years and should not be dismissed out of hand.

Chopsticks are a case in point, albeit a trivial one. Chopsticks should not be viewed in isolation, but as part of an eating system. For a long time in China, food has been cut into bite-sized pieces in the kitchen so as to cook more quickly, thereby conserving fuel. This being the case, there is no need for knives at the table, and chopsticks are cheaper than forks (anyone with a knife and a piece of bamboo can make serviceable chopsticks in a few minutes) and more versatile. (Have you ever tried to use a knife and fork at a stand-up banquet, while wishing you had a third hand to hold your plate? With chopsticks, it's no problem.) They may seem clumsy, and *are* clumsy when first tried, but all the delegates achieved reasonable mastery very quickly, and most of us didn't even lose weight on the trip. In any case, both of the above mentioned factors (simple solutions and a systems approach) are very much in evidence.

Chinese traffic patterns can also be instructive. At first, a Westerner sees nothing but chaos, and marvels that anyone gets anywhere without a major accident. Even on narrow roads, there are men pulling carts, bicycles and tractors trying to go faster than the pedestrians, and cars and trucks going faster than the tractors, yet in two weeks we saw few accidents. More to the point, everyone reaches their destination sooner or later. During rush hours the traffic jams are horrendous, but Houston traffic moves no better at rush hour.

In fact, although the traffic appears chaotic, rules *are* being followed; it's just difficult to tell by casual observation what the rules are. Certainly the rules, especially the unwritten rules that we all know but seldom think about, differ from those in common use in the West. Lanes are marked on the roads, for instance, but no one seems to pay any attention to the markings. This is not surprising, because there aren't enough lanes to accommodate all the different types and speeds of traffic without interference. The cost would be prohibitive, especially in a country with limited investment capital. Consequently, the unwritten rules seem to be "If there isn't enough road for everyone, use common sense" and

"Everyone is entitled to get where he's going, and no one is entitled to get there in a hurry." The net result is to utilize the limited paving as efficiently as possible.

Here, the systems approach is not only in use, but is apparently deeply ingrained into the thought patterns of the "man in the street." Multiple use implies that everyone using the road—drivers, cyclists and pedestrians—must continually make decisions as to right of way. These decisions are relatively complex because of the wide variety of traffic using the same roads. The interesting thing is that nearly every potential conflict seems to be worked out in the most efficient overall way. It would be possible, in principle, to devise a specific set of rules covering all possible situations, but the average driver or pedestrian, Chinese or American, could not reasonably be expected to learn and use them. Consequently, the individual must sort out each situation as it arises and resolve it. The fact that the system works suggests a highly developed, if not virtually instinctive, sense of the general good on the part of all concerned.

This doesn't mean that the typical Chinese driver always defers to the other fellow. Everyone does what he can to reach his destination expeditiously, and doesn't hesitate to assert himself toward that end. However, the typical Westerner's tendency to take personally a failure to yield the right of way isn't in evidence. If you're cut off, you accept the fact and proceed. I suspect that a Houston driver suddenly transplanted to China would almost surely come to grief within the first hour or two; a Chinese trying to drive in Houston would hardly fare better.

The wheat threshing operation that we observed around Xichang is another instance of a simple and, overall, efficient solution to a problem. (It's also an example of fairly rapid adaptation to a new environment—heavy rubber-tired vehicles moving at relatively high speed over a hard surface—to facilitate a tiresome task.) The farmers piled the wheat toward the center of the road and let passing vehicles do the threshing for them, sweeping up and winnowing the grain between vehicles. Now and then a vehicle

(generally a sedan) would prefer the thinner areas near the side of the road, presumably not wanting to clean the straw from the crevices in the car afterwards. However, only occasionally did we see stones arrayed on the pavement to coax vehicles over the thickest part of the wheat; most drivers seemed willing to do their part by going where it did the most good. Most of the people involved seemed to be thinking and functioning at the system level, even though perhaps not consciously.

As a more technical example, the reaction control thrusters on the Long March launch vehicle we saw have only a single gimbal axis. Four such thrusters 90° apart, firing aft and gimballed about a radial axis, provide three-axis attitude control. The propellant feed lines constitute the gimbal axis. The installation could hardly be simpler, and our first impulse might be to look down our noses at such a "primitive" design, but it works. There is a cost in diminished redundancy, but it doesn't appear to be a problem. The reliability enhancement that results from the simpler design tends to offset the reduced redundancy, of course.

On balance, there is much to be said for Chinese methods. Since these methods manifest themselves at so many levels, they must be a fundamental part of the Chinese way of life. It follows that they wouldn't work in the West without adopting at least some Chinese philosophy, and that would take generations. Many of us aren't really ready to adopt the idea that other people, and society as a whole, are important too, unless it doesn't cost us anything. It could also be argued that Western, particularly American, individuality and "go get 'em" spirit made the West, and America, what they are, but that doesn't mean there isn't room for improvement. It's worth thinking about.

1993 Award Nominations

AIAA National has issued a call for nominations for five of the most prestigious awards in the aerospace industry. These awards "recognize those few individuals who, through their outstanding performance, contribution, or deeds, merit the highest accolade the Institute can bestow."

The **Goddard Astronautics Award** is the highest honor AIAA bestows for notable achievement in the field of astronautics. It was endowed by Mrs. Goddard to commemorate her husband, Robert H. Goddard—rocket visionary, pioneer, bold experimentalist, and superb engineer, whose early liquid rocket launches set the stage for the development of astronautics. The award received its current form in 1975, when the Institute changed the name and widened the selection criteria of its former Goddard Award (which had been bestowed for contributions in the engineering science of propulsion and energy conversion).

The **Reed Aeronautics Award** is the highest award an individual can receive for achievements in the field of aeronautical science and engineering. The award is named after Dr. Sylvanus A. Reed, aeronautical engineer, designer, and founding member of the Institute of Aeronautical Sciences in 1932. Reed was the first to develop a propeller system composed of metal rather than wood. His aluminum alloy propeller gave Jimmy Doolittle's plane the speed it needed to win the 1925 Schneider Cup race and brought the inventor much credit and many awards.

The **International Cooperation Award**, approved by the Board of Directors in 1988, is presented to recognize individuals who have made significant contributions to the initiation, organization, and/or management of programs in the United States involving extensive international cooperative activities in space, aeronautics or both.

The **Distinguished Service Award** was established by the Board of Directors in 1968 to give unique recognition to an individual member of AIAA who

has distinguished himself or herself over a period of years by service to the Institute. (Current or past national officers and directors are exempt from this award.)

Through the **Public Service Award**, AIAA honors a person outside the aerospace community who has shown consistent and visible support for national aviation and space goals.

The **Command, Control, Communication & Intelligence Award** is presented for significant contribution to the overall effectiveness of C³I Systems through the development of improved C³I Systems and System Technology. It is presented every other year, in odd years.

The nomination deadline for all but the last of these awards is October 2, 1992. The deadline for the C³I Award is October 10. Questions should be directed to Ms. Merrie J. Luthran, Manager, AIAA Honors and Awards, at 202/646-7534.

Events

M. M. Miller
Programs & Events Chairman

The September monthly meeting is traditionally a joint meeting with other professional societies in the area. This year's September meeting, scheduled for Thursday, September 24, will be co-hosted by the Galveston Bay Section of IEEE and the Clear Lake Galveston Section of ISA. Dan Brandenstein, Chief Astronaut, will speak on the Intelsat Reboost Mission.

The social will start at 5:30 PM, dinner at 6:30, and the program at 7:30. The menu is Beef Stroganoff. Deadline for reservations is 11:00 AM (*not* 12 noon as in previous years) Monday, September 21.

Mr. Dale Johnson, President and CEO of Johnson Engineering, will be the Executive Host.

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 pertinent details either to Audrey Schwartz, JSC/IA121, or to Lou Livingston, 1911 Pepper Hill, Houston, TX 77058.

September 1992

17 - Thursday

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

21 - Monday

Inputs due COB for October *Horizons*.

24 - Thursday

AIAA/IEEE joint dinner meeting.
"Intelsat Reboost Mission;" Dan Brandenstein, Chief Astronaut.
JSC Gilruth Center, 5:30/6:30/7:30.

October

13 - Tuesday

Inputs due COB for November *Horizons*.

15 - Thursday

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

22 - Thursday

Monthly dinner meeting.
"NASA's Blue Team/Red Team;" Charles Bolden, NASA Asst. Deputy Administrator.
JSC Gilruth Center, 5:30/6:30/7:30.

November

5 - Thursday

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

9 - Monday

Inputs due COB for December *Horizons*.

12 - Thursday

Monthly dinner meeting.
"Quality Trends in Aerospace Industry;" Bob Young, President, Technology Services Group, Lockheed Corp..
JSC Gilruth Center, 5:30/6:30/7:30.

December

3 - Thursday

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

10 - Thursday

Monthly dinner meeting.
Director's Reception; Aaron Cohen, Director, JSC.
JSC Gilruth Center, 5:30/6:30/7:30.

18 - Friday

Inputs due COB for January *Horizons*.

January 1993

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.
"F-117 Flight Test Program;" H. C. Farley, Jr., AIAA Distinguished Lecturer.
JSC Gilruth Center, 5:30/6:30/7:30.

February

18 - Thursday

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

22 - Monday

Inputs due COB for March *Horizons*.

25 - Thursday

Monthly dinner meeting.
"Engines for 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.



OUTSTANDING SECTION AWARD



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

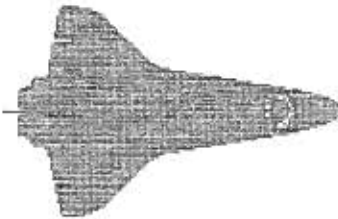


SECTION SPECIAL EVENT AWARD



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

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



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Dr Larry J Friesen
League City TX 77573-9220



STEVE ZOBAL
CHAIRMAN 1992-93

American Institute of Aeronautics and Astronautics

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

CO-HOSTED BY THE IEEE GALVESTON BAY SECTION &
ISA CLEAR LAKE-GALVESTON SECTION

Thursday, September 24, 1992

**INTELSAT REBOOST
MISSION**

DANIEL C. BRANDENSTEIN
Chief of the Astronaut Office



PRESENTER

Captain Brandenstein entered active duty with the Navy in 1965. He was designated a naval aviator in 1967 and from 1968 to 1970 flew 192 combat missions in Southeast Asia. In a subsequent assignment, he was attached to the Naval Air Test Center where, upon graduation from the U.S. Naval Test Pilot School, Patuxent River, Md., he conducted tests of electronic warfare systems in various Navy aircraft. Selected by NASA in Jan. 1978, he became an astronaut in August 1979. He was the pilot for STS-8 and the commander for STS-51G, STS-32 and STS-49. The latter flight was the maiden voyage of the Endeavour. During this mission, the crew performed a record four EVA's to retrieve, repair and deploy the INTELSAT and to demonstrate and evaluate numerous EVA tasks to be used for the assembly of Space Station Freedom. With the completion of his 4th flight, he logged over 789 hours in space. Since 1987 he has also served as Chief of the Astronaut Office.

Executive Host

Dale Johnson
President & CEO
Johnson Engineering Corp.

DINNER MEETING

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

MENU: BEEF STROGANOFF

MEMBERS & SPOUSES \$10.00
NONMEMBERS \$11.00
STUDENTS/YOUNG MEMBERS \$9.00

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

Frankie Hap 333-6064 Lockheed	Sandy Barry 845-0735 College Station	Ardell Broussard 283-4214 McDonnell Douglas	Carroll Robinson 283-6000 Eagle	Sarah Leggio 282-3160 Bendix
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**NOTE: RESERVATION DEADLINE IS MONDAY, SEPTEMBER 21, AT 12:00 .
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.**

