AIAA Horizons
Houston, Texas November 1992

Chairman's Corner

Steve Zobal
Chairman

As you may know, the Regional Advisory Committee (RAC) is the major forum for airing AIAA policy and coordinating Section operations. Membership consists of the Regional Director, several Deputy Directors appointed by the Director, and, for Region IV, the seven section chairpersons. The RAC meets three to four times each year, rotating the meetings from section to section. Our own André Sylvester assumed the three-year Region IV Director position beginning this fiscal year.

The fall Region IV RAC meeting was held on October 5 at Norman, Oklahoma. Two discussion items may be of interest to you.

Membership

Nationwide, total professional membership in the AIAA increased by 9.8% this past year to 33,236. Region IV experienced a 1.5% reduction to 2,864. Most of the Region IV attrition is from the North Texas Section due to large layoffs within the area's defense industries. The Houston Section has remained essentially constant at 1,228. As Jim Visentine, our Membership Chairman, pointed out in the September *Horizons*, our excellent new membership gains were offset by non-renewing members.

Rebates

Section funds are obtained through a rebate system incorporated in the AIAA National budget and through local fund raising efforts. Rebates fall into four categories:

Category I funds are based on section membership and are distributed to each section in October and January, provided the Section has submitted a timely annual report, an audit, and a budget for the current fiscal year. Category I funds are the primary income source for most sections. For example, the Category I rebate line item in our 1992-93 budget is 43% of our operating income. Dinner program receipts provide another 41% (which is offset by dinner costs).

The AIAA National budget allocated $202,000 for fiscal year 1993. Of that, Region IV received $17,408. After Region IV adjustments, whereby the four largest sections contributed -5% to the three smallest sections (e.g., the Holloman/Almogordo Section with 35 members), our Section will receive $7,069 in two installments, about the same as last year.

Category II funds are prize moneys awarded to the sections for achievements such as Outstanding Section, Young Member Activity, Public Policy, Newsletter, and Membership awards. Seventy-five awards are made, covering first through third places for very small, small, medium, large and very large sections. Category II section awards for FY 1993 are $17,500. We should be hearing soon what Category II awards, if any, we will be receiving.

Category III funds are allocated on a per capita basis to Regional Directors for special incentive funding. Section requests are generally approved if (1) it is a one-time expense for a new program/initiative, (2) it supports/promotes student-section interaction, student-industry interaction, etc., or (3) it is anything aligned with the Strategic Plan/Vision. Region IV FY 1993 allocation with 1992 carryover is approximately $2,000. André has set a section request submittal deadline of December 1.

Category IV funds are for Vice President-Member Services incentives and are often used as seed money for large events, which is then returned to the fund if the event makes money. Category IV has been set to zero for FY 1993.

In This Issue . . .

Committee News

International Space Activities Meeting

The first ISAC planning meeting of the section year was held October 15, 1992. Seven members attended. The principal decision reached was to divide ISAC activities into two broad areas, *viz.*, Sister Section Activities and International Service Activities.

In the Sister Section area, formation of new sister sections will be pursued for France, Russia, Germany and Japan. In general, the scope of sister section activities will include international cooperation, mutual support in group visits, exchange of published material (in the public domain), and support of seminars and conferences with papers and presentations. Activities may be further limited by the individual agreements establishing the sister section relationships.

International Service Activities (ISA), as currently planned, will be limited to making available listings and bibliography of international journals; limited translation of letters and abstracts from German, Russian, Chinese and Indian sources; providing references for full translation and interpreting tasks; providing hospitality under an International Space Hospitality (ISH) program; and a weekly Lunch & Learn program on an aerospace vocabulary for reading Russian to be conducted by Jim Oberg.

The next ISAC meeting is planned for Monday, November 2, in the Gilruth Center at 11:00 AM.

Thanks

Bill Best
Newsletter Mail Chairman

As Chairman of the Mailing Committee, I would like to thank some AIAA supporters for getting the newsletter out to our Section. These hardworking individuals are Jim McLane, Shirley Brandt, Tek Shrini, Dan Shrini, Michael Begley, Frank Bittenger John Trebes, Fred Becker and your current Chairman, Steve Zobal.

Paris Airshow 1993

J. C. Snowden

The Houston Section is planning a tour to the Paris Airshow next year. As you are aware, the Paris Airshow is the premier airshow in the world and has displayed such attractions as the Russian Shuttle (Buran) and the An-225. Beside the attraction of new aircraft and space vehicles, as mentioned by Chris Burmeister in the September Horizons, "any international event that this Section participates in provides limitless possibilities for recognition and promotion of our Section."

There are two objectives in the promotion of a tour to the Paris Airshow. The first is to possibly develop a French Sister Section, and the second is to provide an opportunity for Houston Section members to participate in the Paris Airshow. A secondary objective that has not been fully developed is the possibility of a side trip and tour of a French or other European space facility.

The Airshow dates are June 10 through June 20, 1993. Arrangements are being made with a local travel agent to book a nine-day tour leaving on June 11 and returning June 19. The package will include lodging and daily bus transportation to the Paris Airshow. If you are interested, please contact Jim Snowden at 283-0400 during working hours or at home at 333-2576.

On Campus

New UH Graduate Program

The Cullen College of Engineering at the University of Houston has announced a new graduate program in aerospace engineering. This new interdisciplinary degree program was approved several months ago by the Texas Higher Education Coordinating Board. Courses leading to the degrees Master of Science and Doctor of Philosophy are conveniently available to the NASA community. The courses scheduled for UH-CL and on ITV are listed below.

The class schedule will be planned so that the M.S. degree can be completed without the student having to come to the University of Houston main campus for classes. The complete inventory of courses cannot be offered every year at UH-CL or on ITV. However, it is planned to offer enough courses per term (probably five or six) that the M.S. program can be completed with relative ease. The Ph.D. program, which has a more concentrated technical focus, will require the student to spend some time at the main campus.

Admission to the new graduate program at the M.S. level requires an undergraduate degree in aerospace engineering or its equivalent with a GPA of 3.00/4.00 and the Graduate Record Examination (Verbal, Quantitative, and Analytical). Admission to the Ph.D. program requires the M.S. degree in aerospace engineering or its equivalent. Letters of recommendation are required for both degree programs. Admissions questions can be directed to Professor Charles Dalton, Associate Dean of Engineering, at 743-4200.

Courses Offered at UH-CL, Spring 1993

Classes begin Tuesday, January 19, 1993. Building and room numbers to be assigned.

Required Courses in Industrial Engineering

INDE 6361 Management and Organization of Production Instr. J. Hunsucker
4:00-7:00 PM Monday

INDE 6370 Operations Research: Digital Simulation Instr. C. Donaghey
4:00-7:00 PM Wednesday

Courses in Aerospace Engineering

MECE 6353 Computational Fluid Dynamics Instr. R. Metcalfe
4:00-7:00 PM Tuesday

MECE 6362 Advanced Dynamics Instr. H. Doiron
4:00-5:30 PM Monday/Wednesday

MECE 7397 Flexible Spacecraft Dynamics and Control Instr. J. Sunkel
5:30-7:00 PM Monday/Wednesday

MECE 7397 Aerospace Human Factors Engineering Instr. D. Newman
4:00-7:00 PM Wednesday

Television Courses (Off-Site) Building 45 at JSC

ELEE 6373 Advanced Computer Architecture Instr. P. Markenscoff
11:30-1:00 Tuesday/Thursday

ELEE 6397 Applications - Specific VLSI Instr. J.-A. Lee
12:00-1:30 Monday/Wednesday

ENGI 6363 Methods of Applied Mathematics Instr. J. Chen
4:00-5:30 PM Monday/Wednesday

INDE 5397 Construction Engineering Management Instr. D. Fisher
4:00-5:30 PM Tuesday/Thursday

INDE 7397 Legal Aspects of Engineering Instr. J. Sklar
5:30-7:00 PM Tuesday/Thursday

From China

Jim McLane
Sister Section Coordinator, China

The following contribution continues a series, begun in the September and October *Horizons*, of personal observations of members of the Houston Section delegation to China last May.

Personal Observations and Impressions

Dr. Kwei Tu

The delegation visited various Chinese space related facilities including thermal/vacuum test laboratories, launch site and control center, launch vehicle manufacture plant, satellite assembly facility, space medical research laboratory, etc.

It is my observation and impression that the Chinese space technology is still several years behind the United States, but is way ahead of the third world countries. The launch vehicles—Long March series are adequate to launch satellites into various orbits from low earth orbits and polar orbits to geosynchronous orbits. Even though the equipment in the rocket launch control and monitoring center are primitive as compared to the Johnson Space Center Mission Control Center, the successful rate of launching is amazingly high. This indicates that the Chinese under limited resources have obtained by them selves without any outside assistance some critical technologies in the areas of materials, fuel, propulsion, avionics, tracking, telemetry, and command as well as station keeping control and guidance. We must agree that this should represent a remarkable technology achievement by the Chinese.

However, the Chinese space technology cannot be advanced more in the years ahead unless their capabilities of software development and engineering can be greatly improved. The improvement of software capability is also closely tied to the country's overall education systems. The current rigid training programs, under the so-called "Socialism" which severely limits the thinking and innovation of young students, particularly those in the areas of science and technology, will never produce excellent software talents. In this regard, the short term remedy may be to encourage thousands of students currently studying abroad to return to China after they complete their academic and practical training.

Most electronic parts used in the Chinese space projects are still discrete components. Integrated circuits (IC), very large scale IC, and Application Specific Integrated Circuits (ASIC) are seldom employed and applied to the systems. This may be due to the lack of an IC industry in China. This explains why quality control for Chinese electronic products is hard to achieve and product life cycle is too short.

Most facilities we visited did not meet United States standards in the areas of cleanliness, lighting, air conditioning, computerized office desks, information networks, etc. This may be due to limited resource allocations and low priority list, or just the Chinese fail to recognize that improved productivity comes from a well conditioned workplace.

The shortage of electrical power was observed everywhere. This will impede the development and growth of various Chinese industry sectors.

There are many research and development facilities belonging to different State ministries doing the same kind of work. For example, the Chinese Academy of Space Technology of the Ministry of Aerospace Industry, the China Academy of Posts and Telecommunication of the Ministry of Posts and Telecommunications, and The Chinese Academy of Electronics of the Ministry of Machinery & Electronics Industry, all are engaging in telecommunications R&D. Some projects are different, but some are overlapping. If enough resources are available, this may lead to fair competition and check and balance. However, with limited resources, this may well represent duplication and waste.

Who's Who

26 New Associate Fellows

AIAA National has advised the Region IV Director that 26 Houston Section members have been approved for upgrade to Associate Fellow. This follows close on the heels of last year's record-breaking 44 new AFs in the Section.

Again this year, we benefited from an intense upgrade campaign within the Section and from the region-wide upgrade quotas. We had 26 of the 32 upgrades in Region IV, although the Houston Section represents less than half of Region IV's total membership.

Our heartiest congratulations to our new Associate Fellows for this well-deserved recognition of their accomplishments.

Ruth Anne Barrett
Thomas D. Barry
Larry Bell
James L. Clement, Jr.
Hatice S. Cullingford
Dennis Bruce Halpin
Tuyen Hua
Hsien-Lu Huang
J. C. "Clint" Hundley
Larry W. Keyser
Vikram K. Kinra
Joseph J. Kosmo
Robert N. Lea
Kamlesh P. Lulla
Sandra G. Mallini
Raymond A. Mitchell
Donald E. Robbins
Himankush Saha
Ronald M. Sega
Quin D. Shepperd II
Carrington H. Stewart
J. Segun Thomas
John M. Trebes
Clarence J. Wesselski
John F. Whiteley
Robert J. Zehentner

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.

Also Noted

CLCTS

Bill Best
CLCTS Representative

I wonder how many members are aware of an organization known as the Clear Lake Council of Technical Societies (CLCTS). This group, composed of representatives from member societies such as ours, functions as a coordinator to facilitate scheduling and for educational events. An example is the video conference scheduled for October 29 at the Gilruth Center on High Definition TV. The event is made possible by the satellite receiving system obtained through the efforts of the CLCTS. If you would like to become active in this group, let your group representative know.

New Aerospace Prize Established

The creation of the François-Xavier Bagnoud Aerospace Prize has been announced by the Association François-Xavier Bagnoud to honor the memory and ideals of its namesake and thus to recognize the contributions of those in the aerospace field to the advancement and benefit of mankind. The Prize consists of a $250,000 honorarium and a commemorative piece. Announcement of the first recipient is expected in autumn of 1993.

The Prize will be awarded biennially for outstanding accomplishments in the aerospace field. Primary consideration is given to innovative achievement in aerospace engineering, science and medicine resulting in important benefits and significant advancements to the well-being of humanity.

The Prize may be awarded to an individual or group of contributing individuals for a specific achievement or a body of work extending over a period of years. The Prize is international in scope. (cont.)

New Prize (cont.)

François-Xavier Bagnoud was born September 11, 1961, in Geneva, Switzerland. He attended The American School in Paris and was a licensed pilot by the time he completed high school.

In 1979, he entered the Aerospace Engineering Department of the University of Michigan in Ann Arbor, earning his BSE in three years. He founded the student branch of the American Helicopter Society at the University. In 1981 he wrote a manual on "Helicopter Theory for Private Pilots" which is widely used by pilot trainees in Europe.

At age 23, he became the youngest professional pilot in Europe of both airplanes and helicopters. He joined his father at Air Glaciers, a private alpine rescue and mountain flying company in Sion, Switzerland. Within three years, he completed some 300 successful rescue missions in the Alps and in two Paris-Dakar races.

He was killed during a helicopter mission in the desert in Mali on January 19, 1986. The Association François-Xavier Bagnoud was born out of the desire of his parents, stepfather and close friends to commemorate his dedication and caring for others.

Nominations of candidates for the Prize are solicited from international institutions, including the AIAA, members of recognized U.S. and international engineering societies, and other individuals identified by the Prize Board. Nominations for the initial award will be accepted until January 31, 1993. Nomination forms may be obtained from the office of the Chairman of the Prize Board, Professor Thomas C. Adamson, Jr., Department of Aerospace Engineering, The University of Michigan, 2508 Patterson Place, Ann Arbor, Michigan 48109-2140.

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.

November

2 - Monday

International Space Activities Committee meeting.
JSC Gilruth Center, 11:00 AM.

3 - Tuesday

In-Space Imaging TC Lunch & Learn.
"Two and Three Dimensional Blob Analysis Techniques," Clyde Sapp, LESC.
JSC Bldg. 31, R. 129, noon.

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.
Executive host: Gale Burkett, Chairman and CEO, GB Tech.
JSC Gilruth Center, 5:30/6:30/7:30.

Guidance, Navigation & Flight Control TC Lunch & Learn.
"Ada Simulation Development System," Jim Treece, MDSSC.
JSC Gilruth Center, room 204, 11:45.

18 - Wednesday
Life Science and Space Processing Lunch & Learn.
"Wake-Shield Facility: Production of Advanced Electronic Materials On Orbit," Bill Agosto.
JSC Bldg. 3 cafeteria, 11:45.

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.
Executive host: Dr. Clayton Shadeck, Director, Houston Operations, GE.
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.
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

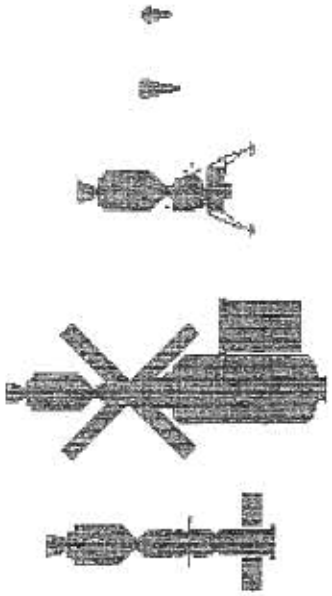
17 - Thursday
Executive Council meeting.
MDSSC, 1300 Bay Area Blvd., Rm. A-119, 5:00-6:15.

24 - Thursday
Monthly dinner meeting.
Annual Honors and Awards banquet.
JSC Gilruth Center, 5:30/6:30/7:30.

AIAA Horizons

OUTSTANDING SECTION AWARD

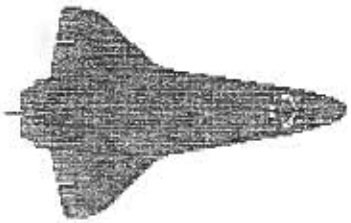
1975-1976
1976-1977
1979-1980
1980-1981
1981-1982
1983-1984
1986-1987
1988-1989



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
[redacted]
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

Thursday, November 12, 1992

QUALITY TRENDS IN AEROSPACE INDUSTRY

ROBERT B. (BOB) YOUNG,Jr.
President
Technology Services Group
Lockheed Corporation

PRESENTER

Mr. Young became Group President of Lockheed Corporation's Technology Services in July 1992. Before this appointment, he had served as President and CEO of LESC since the Houston subsidiary was established in 1979. He was elected a Vice President of Lockheed Corp. in 1983. Bob joined Lockheed in 1973 as a senior staff engineer specializing in computer sciences. He rose through the management ranks and became Vice President and General Manager of the Computer Systems Division in 1978. He held that position until being named President of LESC. Bob was born in Casper, Wyoming. He received a B.S. in mathematics and physics from Southeastern Louisiana University. He is 1991-1992 chairman of the Harris County U.S. Savings Bond Drive; a member of the UHCL Development and Advisory Council; a member of the board of the Texas Council on Economic Education; and a co-chairman of the JSC Team Excellence Forum. He was honored this year with the AIAA Leadership in Quality Management Award.

Executive Host
Gale E. Burkett
Chairman, CEO
GB Tech., Inc.

DINNER MEETING

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

MENU: CHICKEN CACCIATORE

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	Ardell Broussard	Kim Wunsch	Sarah Leggio
333-6064	283-4214	483-1350	282-3160
Lockheed	McDonnell Douglas	RSOC	Bendix

CALL ONE OF THE ABOVE FOR RESERVATIONS.
DEADLINE IS MONDAY, NOVEMBER 9, 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.