

# HORIZONS

Houston, Texas

December 1991

## **Chairman's Corner**

**Dr. Zafar Taqvi**  
Chairman

Terry Jordan, AIAA Region IV Director, has just informed me that our section has won again this year in national competition. We are placed third outstanding section in the very large section category. Also, we have won second in membership. The section will receive \$100 and a certificate for each of the two awards.

My heartiest congratulations to the section membership and especially to John Trebes, our 1990-91 Chairman, and his team for their fine effort.

The question to our current section board is: Can we do better this year? And the answer is a big YES! We will try our best to bring bigger honors to our section—and of course we need your help. Your help is needed in making things happen. We need your participation.

To each of you, my best wishes for a happy holiday season and a prosperous new year.



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## **Behind The Board**

**Steve Zobal**  
Chairman-Elect

The Programs & Events Committee performs one of our Section's most important functions. This year's P&E Committee is led by Norm Chaffee, who has assembled an outstanding list of guest speakers for the 1991-92 dinner meetings. Norm's experience as a past Section Chairman and his current position as Deputy Chief of JSC's Automation & Robotics Division provide an insight to topics of interest to our members and access to qualified speakers.

In addition to local speakers of prominence, we have access to distinguished speakers nationally. Each year, AIAA Headquarters compiles a list of Distinguished Lecturers from which a section may request up to two lecturers per program year. This is on a first come, first served basis, with no guarantee that a section will receive either of the requested lecturers. Norm submitted our section requests early and has tentatively lined up a couple of distinguished lecturers for the second half of this term.

At one of the Board planning sessions this summer, Norm suggested we consider a field trip to a nearby site of interest. Under consideration is a trip to the Texas A&M University wind tunnel facility and a joint meeting with the student chapter. If you have some ideas and/or suggestions along this line, please contact Norm or anyone else on the Board.

*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 communications to the Chairman, Dr. Zafar Taqvi, LESC/C80, telephone 333-6544, fax 333-7620.

## **Committee News**

### **International Space**

#### **Activities Committee Meets**

Dr. Zafar Taqvi  
ISAC Acting Chairman

A planning meeting of ISAC was held October 23 at Lockheed Plaza 4. The following committee objectives were agreed upon:

1. Promote international space activities.
2. Disseminate information on international space activities.
3. Educate the membership on developments in space activities worldwide.

To accomplish the above objectives, the following activities were identified:

1. International section cooperation: encouraging sister section formation.
2. International publication/documentation: compiling lists and procurement.
3. International speakers engagement: schedule international speakers.
4. Foreign language support: support in translation, interpreting and training in foreign languages.
5. International space policy: input to Public Policy Committee.

The Ad Hoc Committee on the International Space Year, headed by André Sylvester, presented a list of activities that included an essay contest and a seminar on international space programs.

ISAC invites members interested in its activities to contact Dr. Taqvi immediately at 333-6544. ●



## **Joint Videoconferences**

Clay Shadeck

Education/Professional Development Chairman

AIAA cosponsored the IEEE videoconference on Software Testing and Reliability October 30, 1991, at the JSC Gilruth Recreation Center (GRC). The conference emphasized a pragmatic view of software testing and reliability assessment. The presenters, from Case Western University, Syracuse University and the US Army Operational Test and Evaluation Command, reviewed the state-of-the-art and state-of-the-practice of these twin technologies. They also presented guidelines for selecting the most cost-effective testing and reliability measurement techniques consistent with the criticality level of software.

The next IEEE/AIAA cosponsored videoconference is on Development of Optical Computing on December 11, 1991, at the GRC from 10:30 AM to 2:00 PM CST. For additional information, please contact Mallik Putchu, AIAA Education Committee, at 282-7244 or Andy Lindberg, IEEE Education Committee, at 483-1474. The AIAA/IEEE Education Committees welcome suggestions for new topics of interest to the membership. Please call or forward your ideas to the above mentioned individuals to pursue them further for the benefit of the membership. ●

## **Volunteers Wanted**

Bill Krumrey

Student Affairs Chairman

We would like to compile a list of AIAA members that are interested in supporting any one or more of the following tasks:

1. Career counseling in aerospace related fields.
2. Support College Nights.
3. Support the Science Fair via individual AIAA awards and judging.
4. Give presentations to local schools.
5. Build new presentations.
6. Organize new member functions.

If you are interested or just have some ideas, please call Bill Krumrey at 480-8133 (home). ●

## Poster Mania

Bill Geissler

Membership Development/Retention Chairman

Fifty on- and off-site buildings now sport our new eye-catching posters advertising the AIAA. As you recall, we announced the availability of these posters in the October issue of *Horizons*. Since that time, the MDR committee has been busy obtaining monitors for each building and distributing the posters along with wooden easels in some instances. From what I hear from several monitors, the membership applications are disappearing fast from the poster jackets. Let's hope some of them find their way to AIAA Headquarters.

The buildings that have posters which are monitored by various members are listed below. If your building was overlooked or you think it is large enough for more than one, give me a call at 333-6863 and I will fix you up.

### JSC Buildings

1, 7, 12, 13, 14, 15, 16, 16A, 17, 29, 30, 30A, 31, 32, 36, 37, 44, 45, 49, 207, 350, T585, Atlas, Beta, Nova and Vanguard.

### Contractor Off-Site Buildings

Barrios, Bendix (RSOC 550), Boeing, CSC, Eagle Eng., G.E., Grumman, Hernandez Eng., Johnson Eng., LESC (LP-1, LP-2, LP-4), Link, Loral (Hdqs., 1816), LMSC, MDSSC (Tower, Bay Area, CHCS, Space Park, CLDF) and RSOC (600, Parsec). ●

## Quality Seminar Held

Dr. Zafar Taqvi  
ISAC Acting Chairman

On November 8, the International Space Activities Committee sponsored a presentation on "Recent Advances in Quality Management and Standards in the Aerospace Industry in China" by Mr. Zhang ZengMao, Deputy Director, Quality Assurance Bureau, Ministry of Aerospace Industry, PRC. The

presentation was organized by Jim McLane, ISAC Sister Section Coordinator for China. A very lively question and answer session followed the talk.

Mr. Zhang heads the Study Group on Quality Engineering and Standards, Ministry of Aerospace Industry. Mr. Xiong ShangHua, Mr. Chen Zhao, Mr. Cui YuXiang and Ms. Cao Chun, members of the study group, were also present.

The meeting was attended by top management of Lockheed including Dr. M. M. Miller, Vice President, Lockheed Engineering & Sciences Company, and Mr. Marv White, Director, Spacecraft Systems Branch. ●

## Wednesday Afternoon At The Movies

George Nield  
Education & Professional Development Chairman

On the third Wednesday of every month, the Education/Professional Development Committee will present one or more videotapes that are of interest to the aerospace community. The presentations will be held at JSC, Building 1, Room 820, starting at 4:15 PM. Most of the films last 20 to 30 minutes. Come on by on your way home from work and enjoy some classic cinema!

Our next showing will be December 18 and will feature an excellent film on "The Application of Orbital Mechanics." It includes a brief look at some of the early theories on planetary orbits, and then explains and gives examples of many of the terms used in discussing orbits and orbital motion. The animation is interspersed with scenes from actual Shuttle missions. The film offers a great opportunity to learn more about orbital mechanics without causing the eyes to glaze over from watching too many equations.

The schedule for the remainder of the year is included in the Houston Section Calendar. ●

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## From Our Sister Section, The Shanghai Astronautical Society

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### ***Chinese Satellite Book Of Records***

[Excerpt from the Shanghai Astronautical Society Newsletter, Volume 2, April 1991.]

Translated by Tuyen Hua  
International Space Activities Committee

The earliest satellite built by China was Mao 1, launched by the three stage heavy-lift booster rocket Long March 1, on April 24, 1970. The satellite kept broadcasting the Chinese national anthem, the Red Orient, in space. China became the fifth nation in the world to launch her own satellites.

The satellite with the longest life span was Operation 1. It was placed in orbit in March 1971 and stayed functioning in space for over eight years.

The first jumbo satellite, weighing over a ton, was Technology Experiment 1, launched by the two stage heavy-lift booster rocket Storm 1, on July 26, 1975.

The first recoverable satellite was Recoverable Remote Sensing 1, launched by the two stage heavy-lift booster rocket Long March 2, on November 26, 1975 and returned to earth after seven days. China became the third nation in the world to launch recoverable satellites.

Three was the largest number of satellites having been carried into space by a single rocket. On September 20, 1981, Storm 1, a heavy-lift space rocket placed three satellites, Operation 2, Operation 2A and Operation 2B, in near-Earth orbits. China was the fourth nation capable of deploying multiple satellites from a single launch vehicle.

The first geostationary satellite built by China was Mao 2, an experimental communication satellite launched by the three stage heavy-lift rocket Long March 3, on April 8, 1984. On April 16, Mao 2 was inserted into a geosynchronous orbit at 125° east

longitude above the equator. China became the fifth nation to achieve this technology.


The first polar orbit satellite was Wind & Cloud 1, an experimental weather satellite launched by Long March 4, a three stage heavy-lift rocket, on September 7, 1988. China became the third nation to possess this technology.

The first satellite built to conduct microgravity experiments for a foreign customer was Recoverable Remote Sensing 9, launched on August 5, 1987. The experiment was owned by a French company.


The first satellite launched for a foreign customer was Asia 1, a communication satellite built by Hughes Corporation of the United States. The satellite was launched by the heavy-lift rocket Long March 3 on April 7, 1990, marking China's emergence in the international space technology commercial arena.

The highest success rate went to the Recoverable Remote Sensing family of satellites. Twelve out of twelve returned to earth safely, setting the world record.

1990 was the year holding the most number of satellites launched. A total of five satellites were placed in space.

Jiuquan Satellite Center holds the nation's record for launching the most satellites, a total of 20. The next two launch sites are Xichang Satellite Center (with eight satellites launched) and Taiyuan Satellite Center (with two satellites launched). 

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It's not always what you say that counts; how you say it can make a big difference. "The probability of rain is 50 per cent" and "I haven't the slightest idea whether it will rain" are logically identical, but they certainly don't convey the same message. 

**Sister Section Personality**

Translated by Tuyen Hua  
International Space Activities Committee

Wei Zhong Quan graduated from Fu Dan University in 1958 with a degree in mathematics. Presently he is research scientist and deputy chief of Division 509 of the Department of Aviation and Aerospace. He is also vice chairman of the department's Technical Committee on Satellite Technology and Applications, board member of the Chinese Astronautical Society and vice chairman of the Society's Technical Committee on Flight Vehicle Integration Systems Technology.

Wei began his career with the man-made satellite industry in 1965. Under the direction of avionics expert Chen Fang Yun, Wei managed the operation verification of the satellite land survey system integration project, subsequently contributing to the successful development of the first land survey satellite of China. From the late 60's to the mid 70's, he was one of the integration system managers of the Technology Experiment Satellites project, and orchestrated the research and development of the third, fifth and sixth satellites. In 1978, he was awarded the National Science Award. Wei was also the first in China to succeed in the experiment operation of the low earth orbit satellite tracking, remote sensing integration systems.

Wei is currently the principal designer of the Wind & Cloud 2 weather satellite and continues to play a key role in China's research and development of weather satellites.

**Who's Who**

**Membership Still Growing**

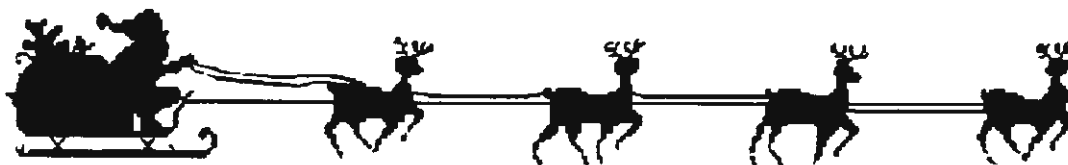
Jim Visentine  
Membership Chairman

I am pleased to report that our AIAA membership has increased last month by 37 new members. Our membership now stands at 1,261 professional engineers, managers and scientists, with AIAA grade distributions as follows:

- Members 908
- Senior Members 198
- Associate Fellows 144
- Fellows 11

On behalf of our Membership Committee and the Executive Council, we offer our assistance to the following new members and extend to each of them a warm "welcome aboard!"

- |                    |                  |
|--------------------|------------------|
| Bruce Biskup       | Carolyn Krumrey  |
| Lindsey Bredemeyer | John Maynard     |
| Robert Brodgon     | Lisa McCrea      |
| Steve Bullen       | Jim McKinnie     |
| John Busbee        | Angela Prince    |
| Michelle Busbee    | Alyson Reed      |
| William Cobb       | Jerry Sanders    |
| John Craft, Jr.    | Taher Schobeiri  |
| Huyen Diep         | Leigh Sickler    |
| Robert Dobyne      | Carlos Soares    |
| Lisa Eagleson      | Michael Taylor   |
| Mark Evans         | Philip Tung      |
| Erik Evenson       | Tim Wakeley      |
| Robert Heuscheid   | Keith Williams   |
| Hsien-Lu Huang     | Patrick Wright   |
| Yashvant Jani      | Joseph Yang      |
| Vicki Johnson      | David Yeung      |
| Erica Jonke        | Robert Zehentner |
| Ted Keller         |                  |



## **25 Years Ago This Month**

Joey Kuhlman  
History & Heritage Chairperson

This column is intended to remind Houston Section members of their remarkable legacy. Perhaps it will stir memories for some. For others it may be a lesson in "the more things change, the more they stay the same."

November 1966 and the Manned Spacecraft Center is at a pivotal point. The Gemini Program, immensely successful but now often forgotten between the excitement generated by Mercury and the anticipation of Apollo, is winding down. The *MSC Space News Roundup* remembers it this way...

### **Gemini XII Flight Closes Out Achievement-Packed Program**

A highly successful Gemini XII mission last week punctuated the Gemini Program story with a final period as the spacecraft splashed down within three miles of the prime recovery vessel. As the Gemini story was wrapped up, and became a part of manned space flight history, Apollo waited to tell its narrative. Gemini XII met all mission objectives except that of going to a 400 nm apogee. Ignition of the Agena's primary propulsion system was ruled out when insertion telemetry showed that the Agena's main engine turbopump ran overspeed.

The Agena rendezvous vehicle was launched by an Atlas Standard Launch Vehicle at 1:07:58 PM CST November 11. The Agena placed itself into an orbit measuring 159 nm perigee by 163 nm apogee.

The Gemini countdown, meanwhile, went smoothly through crew insertion, hatch closure and the built-in hold at T minus 3 minutes. Liftoff was at 2:46:33 PM CST, and the Gemini Launch Vehicle inserted Gemini XII into an 87 nm by 152 nm orbit. [*Space News Roundup*, November 25, 1966]

### **ECS Problem Forces A/S 204 Date Change**

NASA will launch the first manned Apollo spacecraft in the first quarter of 1967. The earth orbital flight is planned to verify performance of spacecraft systems and crew operations.

The three-man crew will be Virgil Grissom, command pilot, Edward White, senior pilot, and Roger Chaffee, pilot. Backup crew is James McDivitt, command pilot, David Scott, senior pilot, and Russell Schweikart, pilot.

Although NASA manned space flight officials had hoped to launch the mission late this year, it was decided to modify a unit in the spacecraft environmental control system (ECS) before the flight. This will require replacement of the ECS unit in the spacecraft and repeating some of the tests previously accomplished at the NASA Kennedy Space Center, Florida. [*Space News Roundup*, November 11, 1966]

### **Gemini Wind-Up Party Planned**

A centerwide Gemini end-of-program party, designated "The Final Gemini Rendezvous," is scheduled to be held December 2 (1966) in Galveston's Moody Civic Center.

The affair will begin at 8 PM and include dancing to big band music, top entertainment, hors d'oeuvres, a special Gemini Program commemorative favor, topped off by a midnight champagne breakfast. Tickets are \$7.50 per person. Special entertainment for the party includes Bill Dana (Jose Jiminez) and tentatively Don Knotts [*Space News Roundup*, November 11, 1966.]

## Events

### Special Seminar Planned

Dr. Zafar Taqvi  
Chairman

A special seminar, "Space Activities in the Engineering Program at Texas A&M," has been organized by the Special Events Committee. It will be held Wednesday, December 4, from 10:30 to 12:30 at the JSC Gilruth Recreation Center. Light refreshments will follow the seminar.

The object of this two-hour, multitrack, multidiscipline seminar is to provide an opportunity to learn about research and advanced studies in aerospace.

Contact Dr. Taqvi at 333-6544 for more information.

### Reception Held For National Committee Members

Dr. Zafar Taqvi  
Chairman

Our Section held a special reception on November 7 for AIAA national committee members belonging to the Houston Section. The reception was attended by section officers and committee personnel.

The major focus of the reception was to get acquainted with the national committee members and to invite these committees to bring national conventions and conferences to the Houston/Clear Lake area. Bob Savely, Symposium, Conference and Workshop Subcommittee Chairman, explained why they should bring their meetings here.

Mrs. Eleanor Aldrich, Director of Technical Services, AIAA Headquarters, was a surprise guest.

Two special sessions followed a short business meeting. Councillor Shirley Brandt presented "How To Hold An Effective Meeting" and Section Chairman Dr. Zafar Taqvi conducted a workshop on "Running a Volunteer Organization And How To Do Our Job More Effectively."

### Exploring Dinners

Lou Livingston  
Editor

Lunar and Mars exploration was the topic of both the October and November Houston Section dinner meetings. Dr. Michael Duke, Deputy for Science in the JSC Lunar and Mars Exploration Program Office, discussed lunar outposts to a good turnout at the October 24 meeting. On November 13, to a nearly full house, Jay Greene, Deputy Associate Administrator for Exploration, NASA Headquarters, gave an overview of the current status of NASA's space exploration program.

In his introduction, Dr. Duke mentioned the passing a week earlier of Dr. Harlan Smith of the University of Texas (see *Also Noted*). He suggested that it would be appropriate to name a lunar observatory for Dr. Smith.

Dr. Duke noted several valid reasons to return to the moon: lunar science is relevant to an understanding of earth and its problems; the moon is a stepping stone to Mars and beyond; the moon is a doorway to the resources of space.

Mr. Greene outlined the four program "architectures:" Mars exploration with minimum lunar work; science emphasis on the moon and Mars; permanent lunar presence with Mars exploration; and space resource utilization.

The limited exploration budget constrains near-term efforts to relatively small missions; current thinking is about \$500 million over four years.

## Lunch & Learn Slated

Bill Agosto  
Life Science & Space Processing Chairman

Dr. Michael Powell will educate us on decompression of EVA personnel in orbital assembly operations at a Lunch & Learn on December 10 at 12:00 noon in the private dining room of the JSC Bldg. 3 cafeteria. Dr. Powell is head of environmental physiology at JSC. For further information, please call Bill Agosto at 486-9343. ☺

In case you missed it last month, or just forgot, an application form for upgrade to Senior Member, with references from Dr. Zafar Taqvi and Jim Visentine, is included again in this month's *Horizons*. The only qualification is eight years of professional practice, of which up to four years may be in study for advanced degrees. It doesn't cost anything but a stamp, and a lot of Houston Section members qualify.

## Also Noted

### Harlan Smith - In Memoriam

[Astronomer Harlan J. Smith died October 17 in Austin at the age of 67. Dr. Smith was director of the University of Texas's McDonald Observatory in west Texas for 26 years until his retirement in 1989, and was chairman of the university's astronomy department for 15 years.

He was credited with discovering the variability of quasars, the influence of solar wind on radio emissions from Jupiter, and the existence of variable stars known as dwarf Cepheids.

In promoting a public interest in astronomy, he helped develop the "Story of the Universe" series that won first place awards at the New York Film Festival. - *New York Times*, October 20, 1991.]

Nancy Wood

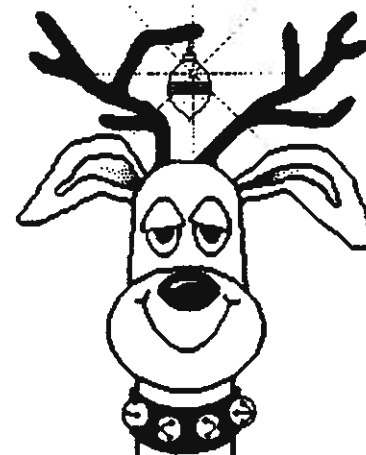
Harlan Smith was an unforgettable human being. His blazing intellect, his intense and convincing teaching and his visionary outlook infected millions

with the urge to explore. Though easy to understand and quick to translate, Harlan never lost the high code of academic rigor that produces compelling research.

Decades ago Harlan saw the need for a cadre of the best young minds for the UT Astronomy Department and he made it happen. He saw the need for Texas to have world class telescopes and sounded the call to action. He sought to make astronomy a household word in homes across the nation and he nurtured Star Date. Long after the Apollo landings, Harlan was still getting bold research results from instruments left on the lunar surface.

The next century will bring many new science discoveries and a return to the Moon. Eventually the keys to the riddle of the universe will rattle on the back side of the Moon with interferometry on a grand scale. When it happens, it will be one more example of Harlan's missionary work, for his influence strides across two centuries. He has given us all a wider world, and I'm honored to have known him.

AIAA friends, associates and colleagues may wish to know that a Harlan Smith Memorial Endowment has been started at McDonald Observatory, University of Texas/Austin, Austin, TX 78712. ☺





## Houston Section Calendar

Beginning this month, a Houston Section Calendar will include all planned AIAA Houston Section activities throughout the year. The Technical Activities Calendar does not appear this month, but will resume in January. It will include, as before, the activities of other technical organizations in the area.

### November

#### 19 - Tuesday

In-Space Imaging TC Lunch & Learn.

"NASA's Electronic Still Camera Project."

Info: Kamlesh Lulla, 483-5159.

### December

#### 3 - Tuesday

Human Support TC Lunch & Learn.

"Space Radiation Concerns for SS Freedom - An Update."

Info: Hatice Cullingford, 283-8229.

#### 4 - Wednesday

Seminar, "Space Activities in the Engineering Program at Texas A&M."

JSC Gilruth Center, 10:30 AM to 12:30 PM.

Info: Zafar Taqvi, 333-6544.

Thermal Physics TC Lunch & Learn.

"JSC's Arc Jet Facility."

Info: Joe Chambliss, 333-6713.

#### 10 - Tuesday

Life Science/Space Processing TC Lunch & Learn.

"The Bends in Orbit," Dr. Michael Powell, JSC.

JSC Bldg. 3 cafeteria, 12:00 noon.

Info: Bill Agosto, 486-9343.

#### 12 - Thursday

Monthly meeting.

Director's Reception; Dr. Aaron Cohen.

JSC Gilruth Center; social 5:00-7:00, program 5:30-6:15.

Info: Norm Chaffee, 483-9995.

#### 18 - Wednesday

Education & Professional

Development Committee film.

"Space Flight: The Application of Orbital Mechanics."

JSC Bldg. 1, Rm. 820, 4:15 PM.

Info: George Nield, 483-1364.

### January

#### 22 - Wednesday

Education/Professional Development Committee film.

"America's Wings."

JSC Bldg. 1, Rm. 820, 4:15 PM.

Info: George Nield, 483-1364.

#### 23 - Thursday

Dinner meeting.

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

Info: Norm Chaffee, 483-9995.

### February

#### 13 - Thursday

Dinner meeting.

Houston Section 30th Anniversary.

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

Info: Walter Lueke, 483-5939.

#### 19 - Wednesday

Education & Professional

Development Committee film.

"SMS Tour."

JSC Bldg. 1, Rm. 820, 4:15 PM.

Info: George Nield, 483-1364.

### March

#### 11 - Thursday

Dinner meeting.

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

Info: Norm Chaffee, 483-9995.

#### 18 - Wednesday

Education & Professional

Development Committee film.

"Preparation and Packaging of Food for Space Flight."

JSC Bldg. 1, Rm. 820, 4:15 PM.

Info: George Nield, 483-1364.

### April

#### 9 - Thursday

Dinner meeting.

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

Info: Norm Chaffee, 483-9995.

#### 22 - Wednesday

Education & Professional

Development Committee film.

"Research Project X-15."

JSC Bldg. 1, Rm. 820, 4:15 PM.

Info: George Nield, 483-1364.

### May

#### 20 - Wednesday

17th Annual Technical Symposium.

Info: Bill Best, 283-0261.

Education & Professional

Development Committee film.

"Shuttle Flow at KSC."

JSC Bldg. 1, Rm. 820, 4:15 PM.

Info: George Nield, 483-1364.

### June

#### 4 - Thursday

Honors & Awards Banquet.

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

Info: Norm Chaffee, 483-9995.

## OUTSTANDING SECTION AWARD



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

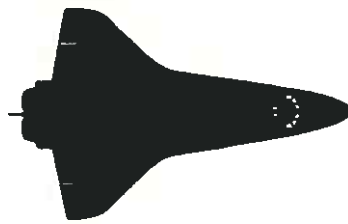


## SECTION SPECIAL EVENT AWARD



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

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



Non-Profit Organization  
U.S. POSTAGE PAID  
Webster, Texas  
Permit Number 1

300591872 B HO  
Dr Larry J Friesen  
League City TX 77573-9220

# ANNUAL JSC DIRECTOR'S RECEPTION

## *JSC IN THE 90'S*

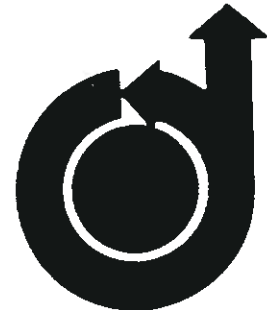
Thursday, December 12, 1991

**AARON COHEN**

Director, Lyndon B. Johnson Space Center

Social: 5:00 - 7:00  
Hot & Cold Hors d'oeuvres  
Beer & Wine  
Program: 5:30 - 6:15

Members \$4.00  
Non-Members \$5.00  
Students/Young Members \$3.00



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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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THE RESERVATIONS DEADLINE IS MONDAY, DECEMBER 9, AT 12:00 NOON.  
ANY CANCELLATIONS ARE REQUIRED PRIOR TO DEADLINE. NO-SHOWS WILL BE BILLED.  
ALL ARE WELCOME.

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

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AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS  
370 L'Enfant Promenade, S.W.  
Washington, DC 20024  
(202) 646-7400

Ack.	Appr.
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FOR OFFICE USE ONLY

**APPLICATION FOR SENIOR MEMBER GRADE**

Dear AIAA Member:

AIAA Membership Grades are both a means of personal recognition and a reflection of the member's standing in the professional community. You are encouraged to review the criteria for Senior Member grade as stated below. There is no fee for application for advance in grade.

Members are encouraged to nominate other Members, as well to apply themselves for an advance in grade. It's essential that you complete both sides of the form. Processing of advance in grade applications includes a review of the applicant's qualifications by the Membership Committee; this procedure generally requires eight weeks. As soon as the review is completed you will be notified of the Committee's decision.

AIAA Membership Committee

Membership number \_\_\_\_\_

Section \_\_\_\_\_

*Please Print or Type*

Name \_\_\_\_\_ Position \_\_\_\_\_

Address (Business) (Home) \_\_\_\_\_ Phone \_\_\_\_\_  
please circle

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Your Duties and Responsibilities \_\_\_\_\_

\_\_\_\_\_

(Use additional sheets as necessary)

**SENIOR MEMBERS**

"Senior Members shall be persons who have demonstrated a successful professional practice in the arts, sciences, or technology of aeronautics or astronautics for the equivalent of at least eight (8) years."

NOTE: Post baccalaureate engineering or science degrees from an educational institution of acceptable standing shall be considered equivalent to professional practice for an equivalent number of years, up to a maximum of 4 years. Bylaw 3.2.1

College or University \_\_\_\_\_ Degree Received \_\_\_\_\_ Date \_\_\_\_\_

Advanced or Additional Degrees Received \_\_\_\_\_ College or University \_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_ College or University \_\_\_\_\_ Date \_\_\_\_\_

Other Technical Schools or Colleges or Special Educational Programs \_\_\_\_\_

Date \_\_\_\_\_ Applicant's or Nominator's Signature \_\_\_\_\_

# APPLICATION FOR AIAA SENIOR MEMBER GRADE

## PROFESSIONAL RECORD

DATES From To	EMPLOYER OR AFFILIATION	TITLE	DUTIES AND RESPONSIBILITIES

## PROFESSIONAL REFERENCES

Senior Member Grade applicants shall furnish two (2) references, both of whom shall be Senior Member grade or higher. Bylaw 3.1.4

**INSTRUCTIONS—Professional References—**Please give the full name, title and address of each of your references. Be sure to identify in the appropriate areas (SM) Senior Member; (AF) Associate Fellow; (F) Fellow; (HF) Honorary Fellow, for each reference's grade of membership.

**THE NOMINATOR MUST OBTAIN SIGNATURES FROM TWO REFERENCES WHO MUST BE OF SENIOR MEMBER GRADE OR HIGHER.**

1. Name DR. S. Z. TAQVI Title Adv. Systems Engg. Specialist GRADE  
SM  AF  F  HF   
 Address LESC, C-80, 2400 NASA RD I Phone (713) 333-6544  
 City HOUSTON State TX Zip Code 77058

The applicant is qualified as a Senior Member. Signature [Signature] Date 10/15/91

2. Name JAMES T. VISENTINE Title STS EXPERIMENTS MANAGER GRADE  
SM  AF  F  HF   
 Address NASA JSC, ESS Phone (713) 483-8923  
 City HOUSTON State TX Zip Code 77058

The applicant is qualified as a Senior Member. Signature [Signature] Date 10/15/91

Date Rec'd.

**For Committee use only**

	Appr.	Not Appr.*	Date Ret.
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REVIEWER: \_\_\_\_\_

Comments: \_\_\_\_\_

Signature: \_\_\_\_\_

(\*Returned for additional information — see comments)

Please return to:

Senior Member Grade Committee  
 AIAA, 370 L'Entant Promenade, S.W.  
 Washington, DC 20024