

HORIZONS

January 1991

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Upcoming Events

ATS Papers to be Taped

Jim McLane
Sister Section Coordinator, China

After the 1990 Annual Technical Symposium, I sent a copy of the abstracts to the Chinese Society of Astronautics. I have now received a reply from them expressing an interest in videotapes of several of the papers presented.

We are trying to organize one or more taping sessions to assemble a videotape to be sent to China. These sessions will be held after the first of the year.

If your paper is one of those selected for taping, you will be contacted to set up a date and time.



From the Chairman

John M. Trebes
Chairman

Happy Holidays? Yes, I know that when you read this the holidays will be over. Writing for publications forces one to shift his calendar, something like jet lag. My shift is not yet complete.

Our AIAA year is half over. Thanks to everyone that has contributed to a fine first half year.

Our next half year will see a spate of Lunch & Learns and our Annual Technical Symposium in May. With low travel budgets stifling trips to far-off symposiums, why not take advantage of your all-day AIAA-sponsored Technical Symposium at UH-CL?

National Engineers Week is February 17-23, 1991. AIAA National is participating in the "largest educational outreach ever sponsored by the engineering community." Call Hiram Thompson right now. Don't wait, jump in, do a little, do a lot in explaining math, engineering and science to the youth of America. Hiram is at 282-8243.

NEW MEMBERS: Your council members are not ignoring you. We just, at this time, do not know who you are. The national office is not sending us your names and dates of joining. So, until management at National fixes that problem, **WELCOME ABOARD.** If you have joined in the last six to nine months, please call Jim Visentine, your membership chairman, at 483-8923 or call me at 483-7215.

Let's have fun in '91.



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 Vice-Chairman of Operations, Charles Blacknall, MDSSC/T7E, 283-1073.

Opportunities for Involvement

Call for 1991 Nominations

John M. Trebes
Chairman

The Honors & Awards Committee is accepting nominations for the following AIAA National awards:

Energy Systems Award

"For a significant contribution in the broad field of energy systems, specifically as related to the application of engineering sciences and systems engineering to the production, storage, distribution, and conservation of energy."

Aerospace Power Systems Award

"For a significant contribution in the broad field of Aerospace Power Systems, specifically as related to the application of engineering sciences and systems engineering to the production, storage, distribution, and processing of Aerospace Power."

DeFlorez Training Award for Flight Simulation

"Named in honor of the late Admiral DeFlorez and presented for an outstanding achievement in the application of flight simulation to aerospace training research and development."

Mechanics and Control of Flight Award

"For an outstanding recent technical or scientific contribution by an individual in the mechanics, guidance, or control of flight in space or the atmosphere."

Please look around you. Let's look at members of our Houston Section, find eligible nominees, and nominate them. Call Honors & Awards Chairman Carl Huss at MDSSC/A121, telephone 283-9197; he has all the details and will be glad to help.



Happy New Year

Who's Who in the Houston Section

And the 1990 Honorees Are...

John M. Trebes
Chairman

Professor Walter E. Haisler, Texas A&M University, Houston Section, will receive the John Leland Atwood Award. The citation for the award reads: "For his untiring contributions to engineering education through his widely acclaimed textbook, his accomplishments in research and his administrative leadership." The award will be presented January 8, 1991, at the Aerospace Sciences Meeting in Reno, Nevada.

Other Houston Section honorees, detailed in the December 1990 *Horizons*, include **Dr. Michael Duke** (Space Science Award) and the crew of STS-31 (Haley Space Flight Award).

Award recipients from other AIAA sections include:

Mr. Frank M. Krantz, Westinghouse Electric Corporation, Baltimore Section, will receive the Aerospace Maintenance Award "for exceptional service in the improvement of system maintainability and for increasing sensitivity to maintenance requirements within the design community."

Vice Admiral Jerry O. Tuttle, U.S. Navy, National Capital Section, will receive the Command, Control, Communication & Intelligence Award "for his energetic and innovative leadership, with emphasis on the economies and effectiveness for warfighting of rapidly changing technology, which created the joint operational tactical system and space and electronic warfare initiatives."

Dr. H. Frederick Nelson, University of Missouri-Rolla, St. Louis Section, was named Faculty Advisor of the Year "for 15 years of dedicated service to students at the University of Missouri-Rolla that led to seven outstanding student branch awards."

Mr. Charles H. Sprinkle, National Weather Service, National Capital Section, will receive the Losey Atmospheric Sciences Award "for personal and professional leadership in enhancing the understanding of the atmospheric environment and for outstanding achievements and contributions to the operations of aeronautical and aerospace systems."

Professor William Sirignano, University of California-Irvine, Orange County Section, will receive the Pendray Aerospace Literature Award "for his numerous, exceptionally clear, and important contributions to the technical literature of combustion, non-steady fluid mechanics and heat transfer that are recognized as quality references in the fields of air and space flight, noise pollution, air pollution, fire safety, and energy conservation."

Mr. Mark Drela, MIT, New England Section, will receive the Lawrence Sperry Award "for his contribution of a method to design subsonic airfoils and for his flight demonstration of his airfoil in Human Powered Aircraft."

Dr. Frank H. Austin, NASA, National Capital Section, will receive the Jeffries Medical Research Award "in recognition of over thirty years of aeromedical research including development of the aerospace medical requirements for Space Station Freedom Crew Systems, flight crew medical standards, and medical operations research."

Congratulations to all the award winners!



From Our Sister Sections

Houston Section Technical Delegation to China

Jim McLane
Sister Section Coordinator, China

A dozen affirmative replies were received to our China Technical Delegation Questionnaire, published in the November edition of *Horizons*. This was not enough to warrant going ahead with any firm plans for a return visit to China this Spring. We now plan to do a better job in publicizing this proposed trip, including a meeting at the Gilruth Center in March or April where some of the video taken by Jim McCoy and Lou Livingston in China during the 1988 Houston Section visit will be shown, and we can tell those interested in going more about what to expect. Fall 1991 and Spring 1992 are the time periods being considered. If you want to be sure you don't miss notices about future activities in this area, give me a call (488-0312) and I'll add you to the mailing list of those who have already responded.



Chinese Space Program Videotapes

Jim McLane
Sister Section Coordinator, China

Chinese video, like most of the rest of the world (USA, Canada, Japan and some South American Countries excepted) is recorded and broadcast using 625 lines and the "PAL" color standard. This is not compatible with our EIA standard 525 lines and consumer grade NTSC color signal. It's possible to convert a video tape recorded in one standard to the other, but the equipment required to perform a quality conversion is very expensive, making the rates for a commercial tape conversion

quite high. As a practical matter, this has inhibited (but not eliminated) the exchange of video tapes with our Sister Section. I have recently received two tapes from China and converted them to our NTSC standard. These are available for loan to our members, especially to local Technical Committees who may wish to show them at one of their meetings. (To arrange a loan, give me a call at 488-0312).

The best of these productions is titled "THE CHINESE ACADEMY OF SPACE TECHNOLOGY". It was produced by CAST in August, 1989, is narrated in English, and has a run time of approximately 19 minutes. It provides an overview of this organization and its member Institutes who shoulder much of the responsibility for the Chinese space program. The quality of the production and format conversion is good. I have some printed brochures describing CAST, which can also be loaned to complement a showing of the tape.


The second video tape is titled "SPACE ACTIVITIES IN CHINA", produced by the Chinese Society of Astronautics. One of the missions of the Society is to "propagandize the Chinese space program", and this tape was obviously produced to do just that. It seems to be aimed at a more general, non-technical audience than the CAST production is, but there is certainly enough technical matter to make viewing by any AIAA member worthwhile. I particularly enjoyed the rocket firing scenes, where the audible countdown was provided to the launch team via a loudspeaker system. The quality of the format conversion is poor, but still viewable. There is one short drop-out of the video midway through the production due to operator error; for the suspicious among you, you have my word that it's not the result of censorship. The tape's principal shortcoming is lack of currency; statements made regarding future programs date the production as being made prior to 1984. The run time is 26 minutes.




Personality Profile: Professor He ZheGhua

Professor He (pronounced "her" with a British bent) was born in Shanghai on December 18, 1928. He received the B.S. degree of Electrical Engineering from La Universitato Utopia in 1952. He studied high power broadcast transmitting facilities in Czechoslovakia from 1953 to 1956. He was engaged in the research and development of transmitters and receivers in the Institute of Broadcasting Technology until 1958. Since then, he joined in the Chinese Academy of Sciences and was in charge of the general system design of the first Chinese rocket sounding system, electromagnetic shaker and was engaged, as a main designer, in the general system design of the first Chinese satellite. Since 1984 he has been working at the Shanghai Institute of Spacecraft Engineering. He has held the post of Vice-Chief Engineer and Director of the Committee of Science and Technology. He is now Professor and Vice-Chief Designer of the first meteorological satellite FY-1. He specialized in the fields of TT&C and satellite communication.

Professor He is a member of the board of directors, TT&C Committee, Chinese Society of Astronautics; and deputy Director of the Remote Sensing Committee, Shanghai Society of Astronautics.

Space permitting next month, we will print abstracts of two very interesting recent papers by Professor He which have been made available to us in English. 

The velocity of sound in cork is 500 m/s. 

Also Noted

[Noted in the Houston Chronicle by Bill Best.]

Student Letters Into Space


The stuff of science fiction flicks has found its way into the classroom via SpaceArc, an innovative educational program that encourages students to reach for the stars - literally.

Developed for the Rochester Museum & Science Center, SpaceArc is a time capsule to be launched into solar orbit in late 1992 - the 500th anniversary of Christopher Columbus' voyages. It will be filled with optically scanned, digital messages from young students throughout the world.

Duplicates of the messages will be stationed at computer centers at museums here on Earth as well. An 8-year-old boy from Houston, for example, will be able to share thoughts with a Soviet boy his own age.

In its test phase, SpaceArc received more than 20,000 one-page Archival Forms from across the globe. Messages ranged from poems on world peace to commentary on inner-city drug problems to self-portraits.

A fee of \$2.50 to cover optical scanning and storage is required to submit a form. SpaceArc is a not-for-profit program developed in conjunction with NASA's educational affairs division, Space Systems/Loral, the World Space Foundation, Educational Testing Service and the U.S. International Space Year Association.

For information, write the Rochester Museum & Science Center, 657 East Ave., Box 1480, Rochester, NY 14603-1480, or call (716) 271-4320. 

Technical Activities Calendar

Bill Best
CLCTS Representative

January

2 - Wednesday

JSC Astronomy Seminar. Open discussion. JSC, Bldg. 31, Rm. 129, noon to 1:00 PM. Information: Al Jackson, 333-7679.

7 - Monday

NASA Area Macintosh Users (Group) "NAMU." "Mac Upgrades", Lincoln Henthorn, Newbridge Microsystems. RSOC Cafeteria, 600 Gemini, 7:00 PM. Information: Sharyn Best, 488-6522.

8 - Tuesday

Clear Lake Council of Technical Societies monthly meeting. Lockheed Plaza 3, 1150 Gemini, 11:45 AM. Information: Andy Lindberg, 483-1474.

9 - Wednesday

JSC Astronomy Seminar. Mission highlight videos: Galileo, Ulysses, Craf-Cassini. Bldg. 31, Rm. 129, noon to 1:00 PM. Information: Al Jackson, 333-7679.

Armed Forces Communications and Electronics Association monthly luncheon (public is welcome). "Air Force Special Operations & Activities," Maj. Gen. Thomas E. Eggers, Commander, Special Operations Command, Hurlbert Field, Florida. Holiday Inn, 1300 E. NASA Rd. 1, 11:30/12:00/12:30. Information: Mike Denard, 280-1532.

16 - Wednesday

IEEE monthly meeting. "Update on the Hubble Telescope," Bert Bulkin, LMSC. JSC Gilruth Center, 11:30/12:00 noon. Information: Dr. Zafar Taqvi, 333-6544.

JSC Astronomy Seminar. Open discussion. JSC, Bldg. 31, Rm. 129, noon to 1:00 PM. Information: Al Jackson, 333-7679.

17 - Thursday

Clear Lake SigAda business meeting. Holiday Inn, 1300 E. NASA Rd. 1, 11:45 AM. Information: Tom Sullivan, 333-5040.

22 - Tuesday

Bay Area PC Organization (BAPCO) monthly meeting. Program TBD. League City Bank & Trust, 303 E. Main, 7:30 PM. Information: Earl Rubenstein, 483-4807.

23 - Wednesday

JSC Astronomy Seminar. "Lunar Base Astronomy: Small is Beautiful," Dr. Harland Smith, LPI. JSC, Bldg. 31, Rm. 129, noon to 1:00 PM. Information: Al Jackson, 333-7679.

24 - Thursday

Society for Computer Simulation (SCS) monthly meeting. Program TBD. Lockheed Plaza 3, 1150 Gemini, 11:45 to 12:45. Information: Wade Webster, 244-4306.

30 - Wednesday

JSC Astronomy Seminar. "Mexico Solar Total Eclipse and Observing Adventures," Paul Maley. JSC, Bldg. 31, Rm. 129, noon to 1:00 PM. Information: Al Jackson, 333-7679.

February

4 - Monday

NASA Area Macintosh Users (Group) "NAMU." "MacSPOC Program" (flew on STS-41), Dan Adamo. RSOC Cafeteria, 600 Gemini, 7:00 PM. Information: Sharyn Best, 488-6522.

16 - Wednesday


Houston Space Business Roundtable monthly luncheon. Lunar Orbiter Project, speaker TBD. Nassau Bay Hilton Hotel, 3000 NASA Rd. 1, 11:30/12:00 noon. Information: John Culp, 480-2817..

March**20 - Wednesday**

IEEE/ISA/CLCTS Video Conference. "Uses of Artificial Intelligence in Manufacturing." JSC Gilruth Center, 10:00 AM to 2:00 PM. Members, \$60; non-members, \$70. Information: Andy Lindberg, 483-1474.

1991 Planning Calendar

Month	AFCEA	AIAA	BUS	IEEE	SCS	SIGAda
February		28		21	28	
March		21			28	
April		25		11	25	
May		23		9	23	
June		13			27	

Please send additions, corrections and comments to: Bill Best/R12A-130, Rockwell Shuttle Operations Co., 600 Gemini Ave., Houston, TX 77058, telephone 283-0261. 

AIAA HOUSTON HORIZONS

OUTSTANDING SECTION AWARD

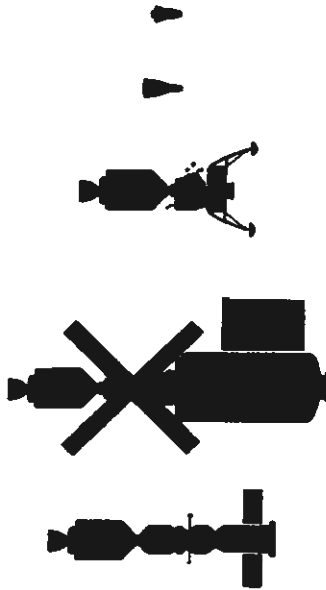


1975-1976
1976-1977
1979-1980
1980-1981
1981-1982
1983-1984
1986-1987
1988-1989

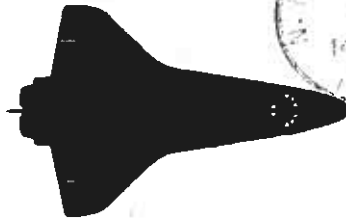
SECTION SPECIAL EVENT AWARD



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



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Webster, TX 77598



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300591872 B HO
Dr Larry J Friesen
League City TX 77573-448



AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS

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

JOHN M. TREBES - CHAIRMAN 1990-91

Thursday, January 24, 1991

A BRIEF HISTORY OF SPACE FLIGHT

KONRAD K. DANNENBERG

**WINNER
1990 AIAA NATIONAL DURAND
LECTURESHIP FOR PUBLIC
SERVICE AWARD**



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

PRESENTER/PROGRAM

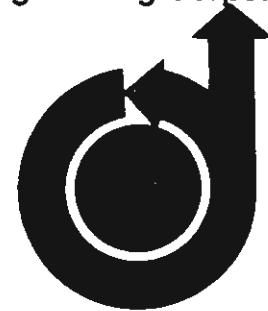
The AIAA Houston Section presents Mr. Konrad Dannenberg, winner of the 1990 AIAA National Durand Lectureship for Public Service Award as part of the AIAA National Distinguished Lecture Program. Mr. Dannenberg, a member of the Von Braun rocket team from the beginning through the Apollo program will present excerpts from his Durand Award lectureship - "In Memory of Herman Oberth". Mr. Dannenberg's talk will also feature pictures from the early days of German rocket development to the moon landing and his views on the history and future of space flight.

Guest Host

Dale Johnson

President

Johnson Engineering Corporation



DINNER MEETING

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

MENU: CHICKEN CALIFORNIA

MEMBERS & SPOUSES	\$8.00
NONMEMBERS	\$9.00
STUDENTS/YOUNG MEMBERS	\$7.00

FRANKIE	SANDY	ARDEL	CARROLL	SARAH
333-6064	845-0735	283-4214	283-6000	282-3160
LOCKHEED	COLLEGE STATION	McDONNELL-DOUGLAS	EAGLE	BENDIX

**NOTE: THE DINNER RESERVATIONS DEADLINE IS FRIDAY, JANUARY 18, 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.

