

HORIZONS

Houston, Texas

May 1992

Chairman's Corner

**Dr. Zafar Taqvi
Chairman**

We are about in the closing months of our 1991-92 administrative year and I feel as though our term has just started. We have achieved a lot during the last ten or eleven months but looking at the available opportunities, I feel we could have undertaken many more tasks. I observe that several technical committees are trying to meet their yearly objectives. Our TQ/V committee will reflect on the achievements and do-able activities to recommend future directions to the new board.

We had a very successful WAR '92 workshop, with over 150 attendees, three tutorials and three technical panels deliberating on "meeting the automation and technology needs for the Space Exploration Initiative." The workshop proceedings will be forthcoming. Other technical committees could also consider conducting similar workshops/symposia to focus on issues pertaining to their areas of interest.

For the remaining time, we still have a few key activities planned. Several technical committees are planning Lunch & Learn presentations. The Apollo Scholarship of \$1,000 will be awarded soon to a deserving college student. Several applications have already been received. The International Space Year (ISY) commemorative trip to China is on. The ISY Essay Contest is gathering momentum. Our 17th Annual Technical Symposium scheduled for May 20 is going to be one of the best. Already more than 16 sessions have been lined up. And we will have several papers from our China and India Sister Sections, another first to add to the Section's traditions.

On May 15, we will have a special *luncheon* meeting under the auspices of the ISY. Famous author (and

Houston Section member) Jim Oberg will talk on "Space Technology for Repairing Earth's Biosphere." We will also use this meeting to honor veteran members completing 25, 40 and 50 years of AIAA membership.

So far we have had good programs, good attendance and good interactive participation in all of our activities, and such a combination is very conducive to the development of your Section. ☺



In This Issue...

Chairman's Corner	1
Behind The Board	2
Committee News	2
The Members Speak Out	4
Who's Who	5
Events	6
AIAA Calendar	6
CLCTS Calendar	7

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.

Behind The Board

**Steve Zobal
Chairman-Elect**

One of the most important Section functions is effectively communicating with the membership. The Section newsletter can, and in the case of *Horizons* does, provide a key link in information dissemination. The person behind *Horizons* is editor Lou Livingston.

Lou retired from JSC in 1989, but I suspect not many assignments during his 26 years at NASA were more challenging than editing *Horizons*. Getting articles and other inputs in a timely fashion to meet publication/ mailing deadlines can be frustrating, to say the least. Appealing to a sense of duty, cajoling and pleading are just some of the tactics Lou has adopted during the past three years to ensure a quality newsletter.

The publication schedule is keyed to our monthly dinner dates. Input deadlines are generally set one month prior to the dinner meeting. Lou allows about ten days from the input deadline for editing and delivery to the printer. From the printer, the newsletter goes to the Mail Team who apply the mailing labels and take the newsletter to the Post Office twenty days before the dinner date.

National recognition came last year when *Horizons* tied for third in the AIAA Very Large Section category. I believe this year's newsletter has moved up a notch in content and quality. Keep those articles coming in—on time!

Lou is a graduate of Yale in civil engineering, class of '49. He and his wife, Edette, are participating in the Houston Section's International Space Year Commemorative Tour of Chinese space facilities beginning May 1. ☉

Committee News

Space Station Structures & Mechanisms Discussed

J. A. Woods

The March Brown Bag presentation of the Materials, Structures and Dynamics TC was held March 25 in building 13, room 156 at JSC. The title of the presentation was "Space Station Freedom Structures and Mechanical Systems Overview." Mr. Jim Woods presented the structures and mechanical systems section he compiled for a recent ten-week Lockheed course covering all technical aspects of Space Station Freedom. Topics included configuration and construction of the Pre-Integrated Truss sections, deployment mechanisms and payload berthing systems. About twenty contractors and civil servants attended, the majority being non-AIAA members.

If you are interested in receiving information on future Brown Bag presentations, please contact Tim Powell at 333-7311 to put your name on the mailing list. Announcements for each month's schedule can also be found in the *JSC Space News Roundup*. ☉

Ground Testing & Simulation Lunch & Learn

**Dr. Sivaram Arepalli
Chairman, Ground Testing & Simulation TC**

The second 1992 Lunch & Learn meeting sponsored by the Ground Testing & Simulation TC will be held on April 23 in the JSC Building 3 cafeteria from 11:30 to 12:15. Dr. Frank Burgett will speak on "The Crew and Thermal Systems Division (CTSD) Testing Laboratories—A Brief Overview."

The CTSD Thermal-Vacuum Test Complex in JSC buildings 32 and 33 includes two large thermal-vacuum chambers and several smaller special chambers. The man-rated Altitude Chamber Complex in

building 7 is composed of four chambers and their support facilities.

The Ground Testing and Simulation TC encourages other members of the technical community to participate in their Lunch & Learn meetings. These are unique opportunities to gain broader knowledge of NASA activities and an insight into some of the ground testing done here at JSC. ☉

Thermophysics News

Joe Chambliss
Thermophysics TC Chairman

On December 4, 1991, the Thermophysics TC met in the JSC Building 3 cafeteria for a Lunch & Learn meeting. The topic presented was "Modernization of the NASA/JSC Arc-Heated Wind Tunnel Reentry Environment Test Facility," presented by Walter Lueke of the JSC Experimental Heat Transfer Section. Mr. Lueke described the arc-jet facility and the capabilities it offers for simulation of the reentry environment. The facility has been used in tests of the Apollo and Shuttle thermal protection systems.

The facility has been modernized in the last two years to support ongoing Shuttle and future manned spacecraft thermal protection systems testing. The modernization included a new 12-foot diameter vacuum test chamber and a new diffuser tunnel. Additionally, a "Laser Light" plasma diagnostics laser room has been constructed.

These new developments were described along with the capabilities the facility now offers for simulating the unique reentry environment.

The next Thermophysics TC meeting is scheduled for May 6, 1992. The subject will be "An Overview of the Thermo-Synthesizer System (TSS)." Steve Rickman of the JSC Structures and Mechanics Division will present the status of the TSS development effort and the thermal analysis capabilities the TSS now offers. ☉

Student Activities

Michael Begley
Student Activities Chairman

The Student Activities Committee supported two programs in April. We thank those members who took time from their busy schedules to serve as judges at the Houston Science Fair. As a special awarding agency, our Section evaluated projects related to aerospace studies. Out of about 1300 entries, 34 junior, twelve ninth grade and eleven senior projects were within the AIAA area of interest. The winning entries were:

- Junior - "How Geometry Affects Stealth Design," Gregory A. Nossaman, League City Intermediate School.
- Ninth Grade - "Sunspots and the Sun," Lindsey M. Shaw, Clear Lake High School.
- Senior - "Envelope Dynamics of Landing," Gregory R. Greener, Aldine Senior High School.

The awards were presented Saturday, April 4, by Section Chairman Dr. Zafar Taqvi. We also offered to provide the winners and their families with a guided tour of the space center.

As a follow-on to our local school outreach during Engineer's Week, we invited the teachers whose classes we visited to bring several of their students to astronaut Story Musgrave's talk at the April dinner meeting. We provided 20 autographed photos of astronaut Musgrave, as well as photos of the students posing with him, to take back to their classrooms as souvenirs.

Efforts are now under way to offer a Texas A&M field trip next September to visit the AIAA Student Chapter, tour their aerospace facilities, and perhaps attend a football game. Watch for future details in *Horizons!* ☉

AIAA Time Capsule

Joey Kuhlman
History & Heritage Committee Chairman

The Houston Section has recently remembered its past and anticipated its future. At the 30th anniversary celebration, members were asked to put on paper their thoughts upon the direction the space program would take in the next twenty years. I found myself wondering how different the words written by our youngest members would be from those of the space program pioneers who sat at tables very close to them that evening. I supposed that the ones just starting out would be hopeful and full of anticipation. And the veterans? I guessed that they would write with the benefit of experience and with a level of interest that only comes from a life spent in the business. At any rate, it's hoped that the two perspectives will somehow converge and that young and old alike will combine to make predictions into reality.

The AIAA Houston Section Time Capsule holds these written contributions. The capsule is sealed and will be held in the JSC History Office until we celebrate our fiftieth anniversary in the year 2012. Next to it on the shelves of the office are documents describing JSC programs of the past. The capsule provides quite a contrast and is certainly the focus of considerable curiosity. I know that the invitation is a little early... but I'll see you in 2012 when we can reflect on our predictions with hindsight on our sides. ©

Notice

The Houston Section will hold a special luncheon meeting on Friday, May 15. Jim Oberg, aerospace author, will speak on "Space Technology for Repairing Earth's Biosphere." Registration is at 11:00 AM, lunch (Texas barbecue) at 11:30 and the program at 12:15.

The Members Speak Out

Lou Livingston
Editor

[Opinions expressed in this column are those of the correspondents and the editor. They do not necessarily represent the position of the AIAA or of the Houston Section.]

It is still of the utmost importance that NASA's civil servants and contractor personnel (e.g., Boeing, Loral, McDonnell Douglas, Rockwell) become actively involved in this technical committee's activities. It was encouraging to see a few new faces at the March Brown Bag; it's a start. But if we are to foster their participation in its activities, the committee must publicize.

First, I believe that the committee's distribution list is dated and should be revised. I have been an AIAA member here at NASA-JSC for almost seven years, working in the area of structures and mechanics, and I have yet to receive any formal mailings from this technical committee.

Secondly, the announcement for the Brown Bag must get into the Roundup in time for publication. It was discouraging to find out that this last month's announcement did not make the deadline.

I feel that if we get the word out and if the committee has something of value to give our technical community, then others will be willing to participate. Also, I think it is still a very good idea to continue having the Brown Bag sessions on-site. This eliminates the badging problems of non-LESC personnel when they are held in our buildings.

S. R. King
LESC/B30

This note was originally addressed to the Materials, Structures and Dynamics TC. The Chairman, Don Probe, forwarded it to Bill Best, Vice-Chairman-Technical, and he passed it along to TMSO because

several good points are made that apply just as well to any TC (or any committee, for that matter). Look them over again, and see whether the shoe fits.

1) **Get the people involved.** Wider involvement, particularly from many organizations, means more information available for sharing, and that's primarily what the TCs are all about. It also means more people to share the work, which lightens the burden all around. Besides, the feeling of participating, of doing your share (or a little more), is a good feeling.

2) **Get the word to the right people.** Most of the folks working in a particular technical discipline probably know most of the others in that field at the local level, or at least know who they are. At worst, they ought to be able to find out who they were. But maintaining a mailing list is, I suspect, one of many chores that goes begging for lack of someone to do it. Additionally, some TCs include postage in their budget for mailings, and some don't. Does yours?

3) **Get the word to the rest of the people.** Interest in a specific discipline isn't confined to the people working that area, and broad publication is certainly worthwhile. It takes some planning to meet publication deadlines, but the event itself takes planning and a short blurb in the Roundup shouldn't be hard to manage. Here again, it's only a little chore, but it's a chore all the same, and someone has to do it. We're delighted to put announcements in *Horizons* (when we can get them), but *Horizons* does have a long lead time (about five weeks) and we can't do much about it. On the other hand, how far ahead of time are your events planned?

4) **If it's worthwhile, they'll come.** The members of a TC obviously think their activity is worthwhile or they wouldn't be there. If participation is low or nonexistent, perhaps a reassessment is in order. Sauce for the goose isn't always sauce for the gander, no matter what my grandmother said. There are, of course, two levels of participation. Going to Lunch & Learns is one thing; taking an active part in the work of the TC is another. Large attendance at meetings shouldn't be an end in itself, but in the

long run, it's to the technical specialist's advantage if people outside his discipline understand his problems and what he's doing about them.

5) **Make attendance as easy as possible.** This ought to be abundantly evident, but some things aren't obvious until they're pointed out. It's hard enough to get the people out at all; avoid any extra impediments. ☺

Who's Who

Sylvester Regional Director

We have just been advised that André Sylvester, Houston Section Past Chairman, has been elected to a two-year term as Director of AIAA Region IV. He will succeed Terri Jordan of Albuquerque, who completes her term next month. Our heartiest congratulations. ☺

Citations to be Awarded

Dr. Zafar Taqvi
Chairman

Several Section members were recommended for special AIAA National citations by an ad hoc committee headed by Councillor Marv White. These names have been approved at the regional level, and the awards will be presented at the May 15 meeting. ☺

Local Member Honored

Dr. Kamlesh Lulla, Chairman of the Houston Section's In-Space Imaging and Astronaut Observations TC, is a recipient of the 1992 NASA Manned Flight Awareness Award. He travelled to KSC for the award presentation and to view the STS-45 launch. ☺

Plan Ahead!

Honors & Awards Banquet is Thursday, June 11.
Make a note now to attend!

Events

Wednesday Afternoon at the Movies

Dr. George Nield
Education/Professional Development Chairman

This year's final presentation of "Wednesday Afternoon at the Movies" will be held on May 13 in Building 1, Room 820 at JSC, starting at 4:15 PM. The topic will be "Shuttle Flow at KSC," a 25-minute video which details how the Orbiter is processed for each mission.

If you have any questions, please call George Nield at 483-1364. ☉

Technical Symposium

Bill Best
Vice-Chairman, Technical

Plans for the 17th Annual Technical Symposium scheduled for Wednesday, May 20 at the University of Houston-Clear Lake are in full swing. The planning committee has been working very hard to ensure that you will enjoy a day with your peers hearing about activities across the local aerospace community. 120 papers have been received and organized into 17 sessions, including Space Station Freedom Assembly; Computers and Software Systems; Robotics; Management; Communications; International Space Activities; Human Support; Materials and Structures (two sessions); Propulsion and Energy Systems; Space Station Freedom; Aero-thermal Dynamics; Space Systems; SE&I; GN&C; Simulation and Math Modeling; and Management and Special Topics.

Mr. Bob Thompson of McDonnell Douglas is our General Chairman and will be our morning speaker. A panel discussion just before lunch and an afternoon speaker with a wine and cheese reception are also planned. Some volunteer help will be needed on the day of the symposium. Call me at 283-0261! ☉

AIAA Calendar

April

22 - Wednesday

Education/Professional Development Committee film. "Research Project X-15."
JSC, Bldg. 1, Rm 820, 4:15 PM.
Information: George Nield, 483-1364.

May

13 - Wednesday

Education/Professional Development Committee film. "Shuttle Flow at KSC."
JSC, Bldg. 1, Rm 820, 4:15 PM.
Information: George Nield, 483-1364.

14 - Thursday

Executive Board meeting.
Lockheed Plaza 4, 5:00-6:30.
Information: Dr. Zafar Taqvi, 333-6544.

15 - Friday

Luncheon meeting.
"Space Technology for Repairing Earth's Biosphere,"
Jim Oberg.
JSC Gilruth Center, 11:00/11:30/12:15.
Information: Dr. Zafar Taqvi, 333-6544.

20 - Wednesday

17th Annual Technical Symposium.
UH-CL Bayou Building, 8:00 AM-5:00 PM.
Members \$2, others \$3.
Information: Bill Best, 283-0261.

June

4 - Thursday

Executive Board meeting.
Lockheed Plaza 4, 5:00-6:30.
Information: Dr. Zafar Taqvi, 333-6544.

11 - Thursday

Honors and Awards Banquet.
JSC Gilruth Center, 5:30/6:30/7:30.
Information: Norm Chaffee, 483-9995.

14 - Tuesday

International Space Activities Fair (ISAAF).
JSC Gilruth Center, all day.
Information: Chris Burmeister, 333-6866. ☉

CLCTS Calendar

April

22 - Wednesday

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

24 - Friday

LPI Colloquium Series.
"An Empirical Theory of Pulsar Emissions," Joanna Rankin, University of Vermont.
LPI, 3600 NASA Rd. 1, Berkner Room, 3:00 PM.
Information: Dr. Tomasz Stepinski, 486-2170.

28 - Tuesday

Bay Area PC Organization (BAPCO) monthly meeting.
"WordPerfect," Brian Field.
League City Bank & Trust, 303 E. Main, 7:30 PM.
Information: Steve Medcalf, 554-2300.

29 - Wednesday

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

30 - Thursday

IEEE/CLCTS Videoconference.
"Workstations of the Future."
JSC Gilruth Center, 10:00 AM-2:00 PM.
IEEE members \$50, CLCTS \$70, non-affiliated \$80, students \$15.
Information: Andy Lindberg, 483-1474.

May

4 - Monday

NASA Area Macintosh Users (Group) "NAMU."
New product demo by MicroSoft.
RSOC Cafeteria, 600 Gemini, 7:00 PM.
Information: 488-2262.

5 - Tuesday

American Society for Quality Control (ASQC).
Program TBA.
American Host Motel, 2020 NASA Rd. 1,
5:00/6:00/7:00.
Information: Hank Williams, 338-2676.

7 - Thursday

Clear Lake SigAda Executive Council meeting..
Tindy's, 18307 Egret Bay Blvd., 11:45 AM.
Information: Paul Kennedy, 282-6262.

21 - Thursday

Clear Lake SigAda membership meeting.
"Proposed Propagational Proportional Life Cycle Models for Large ADA Programs," Lutfi El-Shedraway.
Mario's Pizza, 618 NASA Rd. 1, Webster, 11:45 AM.
Non-members, \$2.
Information: Paul Kennedy, 282-6262.

TSPE monthly meeting.
Program TBD.
Ramada King's Inn, 1301 NASA Rd. 1, 7:00 PM.
Information: 338-2966 or 485-2404.

28 - Thursday

IEEE/CLCTS Videoconference.
"Environment Issues and Impact to Engineers."
JSC Gilruth Center, 10:00 AM-2:00 PM.
IEEE members \$50, CLCTS \$70, non-affiliated \$80, students \$15.
Information: Andy Lindberg, 483-1474.

June

2 - Tuesday

American Society for Quality Control (ASQC).
Program TBA.
American Host Motel, 2020 NASA Rd. 1,
5:00/6:00/7:00.
Information: Hank Williams, 338-2676.

12 - Friday

CLCTS Annual Awards Banquet.
JSC Gilruth Center, 5:30 PM.
Information: Andy Lindberg, 483-1474.

Please send information about your meetings to:

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

OUTSTANDING SECTION AWARD

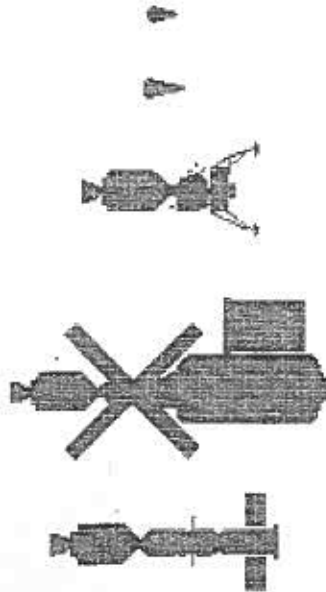


1975-1976
1976-1977
1979-1980
1980-1981
1981-1982
1983-1984
1986-1987
1988-1989

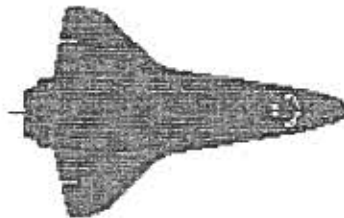
SECTION SPECIAL EVENT AWARD



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



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AIAA HOUSTON SECTION ANNUAL ELECTION

The 1992-93 Houston Section Nomination Committee consisting of Steve Zabal (chairman), Dr, Zafar Taqvi, Andre' Sylvester, Walter Lueke, Carl Huss, John McLane, and Lou Livingston has complied with the process defined in our by-laws to determine the attached slate of officers and councillors for the 1992-93 office term. These candidates have agreed to serve the Section to the best of their capabilities.

Please mark your ballots and return to Chris Burmeister, 1991-92 AIAA Section Treasurer, Mail Code LESC/C87 (for inter-office mail) or to the Section P.O. Box on or before May 20, 1992.

CANDIDATE BIOGRAPHIES

SHIRLEY BRANDT

CHAIRMAN-ELECT

Shirley graduated from the University of Michigan with a B.S. in math. Currently, Shirley is working as a senior systems integration engineer with Grumman Corp. She is a Senior Member of AIAA, having been an active member since 1978. Shirley has been an active participant in the Houston Section. She has served on various technical committees, was Program Chairman during the 1990-91 term, and is completing a two-year term as a councillor.. Previously, she had been a council member and Program Chairman of the Long Island Section.

WILLIAM WINGERT

CHAIRMAN-ELECT

William B. Wingert joined IBM as an Aerospace Engineer after graduating from the University of Texas at Austin. He worked in the area of Space Shuttle Onboard flight software GN&C requirements analysis and verification organization until 1988. In 1989, he worked on various upgrade strategies for onboard avionics and ground systems. He also investigated ways to reuse shuttle software technology on other manned and unmanned launch systems. In 1991, he began managing the Space Shuttle Onboard Flight Software Guidance, Navigation, and Control Requirements Analysis and Performance Verification organization. Bret is an active AIAA member and participant, having served as Houston Section treasurer during the 1990-91 term. He is currently the Region IV Deputy Director, Technical.

TEK SHRINI

SECRETARY

Tek Shrini (a.k.a. T.K. Srinivason) is a senior member of AIAA and is affiliated with Paramax (formerly UNISIS) Corporation. He obtained a bachelor of engineering degree in Mechanical Engineering from the University of Madras, India and a Master of Science from the School of Aerospace, Georgia Institute of Technology, Atlanta, GA. He has been an active member of AIAA since graduation. He chaired the membership committee in the Palm Beach chapter in 1979 and co-chaired the Programs Committee in Los Angeles chapter in 1984. He contributed to the requirements analysis of Space Shuttle Transportation System FSSR documents while at Lockheed, Houston. He formulated design reliability prediction methodology for aircraft engines at Pratt & Whitney and for missile systems at LTV corporation. Further he researched on the guidance and control of ballistic missile defence systems at Vought Corporation. His last assignment with General Dynamics included optimal trajectory analysis of hypervelocity vehicles. He currently supports the day of launch software systems for the Space Shuttle Operations Division.

PAUL JUDAS**TREASURER**

Paul graduated from Iowa State University with a B.S. in Aerospace Engineering, specializing in spacecraft systems design. Currently, Paul is working as an engineer specialist with McDonnell Douglas Space Systems Company, Houston Division, in the Shuttle GN&C FSW Verification Task. He was promoted in June 1991 to technical lead of the group which certifies the on-orbit portion of the Shuttle GN&C flight software for each mission. Paul has been with the task for three years.

While in college, Paul served the ISU AIAA student section in several capacities, including Engineer's Week Council representative and liaison to the SAE Mini-Formula project group. He also served as the 1990-1991 secretary for the AIAA Houston Section.

Paul recently received his Private Pilot certificate and is a member of the Ellington Field Aero Club.

AUDREY L. SCHWARTZ**VICE-CHAIRMAN
OPERATIONS**

Audrey L. Schwartz serves as program analyst with the New Initiatives Office at the NASA/Johnson Space Center where she is responsible for strategic planning and issues analysis. Prior to joining NASA in 1990, Audrey had 15 years media, public relations and marketing management experience with such corporations as Motorola, ITT and ABC. She is the recipient of two national Golden Mirror Awards for marketing excellence.

Audrey has been active in the AIAA-Houston Section, serving as co-chairman of the AIAA-Houston Section public policy committee and organizing the "At the Threshold: The Future of the US Space Program" luncheon program held last July. She recently served on the 30th Anniversary Committee. Audrey also founded and was past chairman of the Bay Area Professional Communicators.

Audrey holds a bachelor of arts degree in journalism and a master of science degree in future studies (strategic planning).

RICHARD P. BENNETT**VICE-CHAIRMAN
TECHNICAL**

Mr. Bennett is currently a staff engineer with McDonnell Douglas assigned to the Space Station program. Dick holds a B.S degree in Electrical Engineering from Kansas, an M.S. from St Louis University, and an EDD from the University of Houston, University Park. He has been in the aerospace industry a total of 27 years with McDonnell Douglas, Lockheed and TRW, and was a faculty member of Texas Woman's University for seven years. For the Houston Section, Mr. Bennett was the chairman of the 1991 Region IV Student Paper Competition. He was a member of the Student Affairs Committee for five years, two of those years as chairman. He was a member of the original Houston Section Scholarship Committee.

DAVE DANNEMILLER**COUNCILLOR**

Dave holds a master of science degree in Aerospace Engineering from the University of Texas. Currently, Dave is Manager, Ascent Flight Design with Rockwell Space Operations Co. He had previously worked for McDonnell Space Systems Co. on the NASP program and earlier in the Shuttle OnOrbit/Rendezvous group. He is a Senior Member of AIAA, having been an active member since 1978. Dave has been a member of the Houston Section Student Affairs Committee since 1984 and has chaired that committee for the past several years.

LAWRENCE T. GUDERIAN**COUNCILLOR**

Larry Guderian presently manages OnOrbit Guidance and Control Analysis work at McDonnell Douglas Space Systems Company - Houston Division, supporting the NASA/JSC Navigation, Control, and Aeronautics Division in Applications and Analyses for the Space Shuttle and Space Station.

He has worked at McDonnell Douglas for over 23 years in several areas: Momentum Management; Attitude Control; Mission Design Development; Attitude and Pointing (STS Universal Pointing Software Formulation), Rendezvous, and Proximity Operations Analyses; Flight Design Integration; Man-in-the-Loop Guidance, Navigation, and Control Part Task Simulator Development; and Software Formulation, Development, Testing, and Verification.

Larry began his aerospace career at Chrysler Corporation Space Division in 1967 in the area of Vehicle Performance for the Saturn I-B Launch Vehicle, and received a B.S. (1964) and M.S. (1968) in Physics from the University of New Orleans. He has been a member of AIAA since 1975, having served as a Houston Section councillor for the past 2 years.

MICHAEL R. LAIBLE**COUNCILLOR**

Mike received a B.S. in Aerospace Engineering from Parks College of St. Louis University in 1985. He has been an AIAA member for nine years, three years as a student member. While a student member, he participated in numerous fund raising events in support of the Parks AIAA section. Mike joined Rockwell International under the STSOC contract in 1986. His assignments included design and analysis of Shuttle payload deployment and retrievals, and work on the Tethered Satellite System.

Mike is currently a senior integration engineer on the Space Station Freedom assembly sequence with Grumman Corp. His duties include the review and assessment of the overall on orbit assembly plan and specific independent analyses and evaluations. During the six years as a professional AIAA member, he has become an active participant in the Space Systems Technical Committee (SSTC) and was nominated Publicity/Lunch and Learn manager. He served as Houston Section Vice Chairman-Technical during the 1989-90 term. He also served as General Chairman for the AIAA 1990 Technical Symposium.

DR. GEORGE C. NIELD**COUNCILLOR**

Dr. Nield is currently serving as Manager of the NASA Flight Integration Office within the Space Shuttle Program. His previous work assignments have included being an Assistant Professor of Astronautics at the United States Air Force Academy in Colorado Springs, and working as a Flight Test Engineer at Edwards Air Force Base. He holds a B.S. in Engineering Science from the United States Air Force Academy, and an M.S. and Ph.D. in Aeronautics and Astronautics from Stanford University. He is also a graduate of the USAF Test Pilot School and is a registered Professional Engineer

In addition to being an Associate Fellow of the AIAA, Dr. Nield is a Member of the Society of Flight Test Engineers and a Fellow of the British Interplanetary Society. A member of the AIAA since 1973, he has served as Secretary and Treasurer of the Antelope Valley Section and as Faculty Advisor for the the AIAA Student Branch at the USAF Academy. He has been a Councillor for the AIAA Houston Section since 1989, and was responsible for organizing the "Wednesday Afternoon at the Movies" aerospace video series.

MALLIK S. PUTCHA**COUNCILLOR**

Mallik Putcha received both a Bachelor's and Master's degree in Electrical Engineering from the Indian Institute of Technology, Madras, India. Subsequently, he obtained an MS in Electrical Engineering and an MBA from the University of Houston, Main Campus.

Currently, he is employed as an Advisory Systems Engineer in the ADF Systems Engineering department at IBM Federal Systems Company. He is leading the efforts in the areas of Software Development Environment and tools at MDSSC Clear Lake Development Facility. Earlier at IBM, he has worked in the Mission Systems Contract program (proposal and SSCC reconfiguration) and the SOPC program (operations transition and training).

Previously, he worked as a Senior Engineering Specialist in Systems Engineering at Ford Aerospace & Communications Corporation. His assignments included lead functions for MAST II Project development/Transition, Flight Preparation reconfiguration template, and STSOC proposal activities. He also worked as a Technical Specialist in Shuttle Avionics integration activities at the McDonnell Douglas Technical Services Company.

Mallik has been a member of the Section since 1978 and was elected as an Associate Fellow of AIAA in 1987. He is responsible for establishing India Sister section at Bangalore in 1988 and is the Coordinator for their activities. He initiated the concept of inviting papers from the Sister sections for presentation at the forthcoming 17th Annual Technical Symposium. As a member of the Education and Professional Development Committee, he is also responsible for coordinating the Video conferences jointly with the IEEE Galveston Bay section. Over the years he served the Houston Section as Secretary, Councillor, Ad-hoc Chairman, JSC/USCL R &D Productivity Conference, and Operations Chairman, Invited Lecture Series



ZAFAR TAQVI
CHAIRMAN 1991-92

American Institute of Aeronautics and Astronautics

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

SPECIAL INTERNATIONAL SPACE YEAR LUNCHEON

Friday, May 15, 1992

**SPACE TECHNOLOGY FOR
REPAIRING EARTH'S
BIOSPHERE**

**JAMES OBERG
AEROSPACE AUTHOR**



PROGRAM/PRESENTER

The known threats to Earth's biosphere continue to increase in number: there are notorious manmade effects such as "global warming", desertification, ozone shield depletion, along with the classic concerns with natural disasters such as ice ages, asteroid impacts, volcanism, and many others. Overconcentration on recent artificial impacts has led to the simplification that merely termination and reversing human disturbances will restore some pre-technology "Eden" on Earth. A closer reading of Earth's climatic history, however, suggests that active technological intervention may be required not only to "clean up" human damage but to forestall or repair the kinds of severe natural damages which can be expected. Space technology will play a key role in this process, from detection to understanding to implementing.

James Oberg has been a space engineer for twenty years and a space futures speculator/author for even longer. In 1981 he published *New Earths*, the world's only non-fiction book about "Terraforming", the science fiction term for planetary engineering. He is an Associate Fellow of the AIAA and a former counsellor in the Houston chapter.

LUNCHEON MEETING

REGISTRATION: 11:00-11:30
LUNCHEON: 11:30
PROGRAM: 12:15

MENU: TEXAS BAR-B-Q

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

MEMBERS & SPOUSES \$7.00
NONMEMBERS \$8.00
STUDENTS/YOUNG MEMBERS \$6.00

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 TUESDAY, MAY 12, AT NOON .
ANY CANCELLATIONS ARE REQUIRED PRIOR TO DEADLINE. NO-SHOWS WILL BE BILLED.
ALL ARE WELCOME.**

LUNCHEON RESERVATIONS ARE NOT REQUIRED FOR ATTENDING THE PROGRAM ONLY.



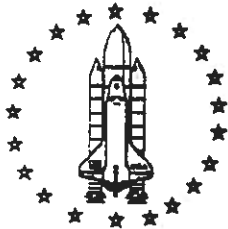
American Institute of Aeronautics and Astronautics

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

HOUSTON SECTION 17TH ANNUAL TECHNICAL SYMPOSIUM

TAKING THE LEAD

CO - HOSTED BY AIAA HOUSTON AND
THE UNIVERSITY OF HOUSTON - CLEAR LAKE
HIGH TECHNOLOGIES LABORATORY

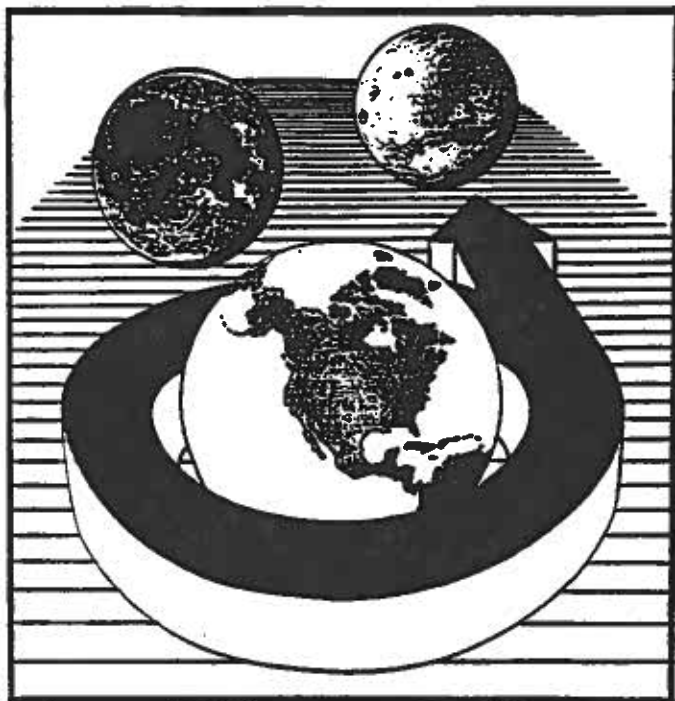


30th Anniversary
Houston Section

WEDNESDAY, MAY 20, 1991
AT THE UNIVERSITY OF HOUSTON - CLEAR LAKE

General Chairman & Opening Speaker
Robert F. Thompson
Vice President & General Manager
Space Station & Houston Divisions
McDonnell-Douglas Space Systems Co.

Plenary Speaker
TBD



8:00 Registration (Bayou Building First Floor)
\$2 AIAA Members, \$3 Nonmembers

8:30 - 9:10 Opening Session (Bayou Building Auditorium)

FEATURING:

BOB THOMPSON

TBD

9:20 - 11:40 Concurrent Symposium Morning Sessions
(Presentations will start at 20 minute intervals)

11:40 - 1:00 Lunch Break
(Food available at the UHCL cafeteria)

1:00 - 3:40 Concurrent Symposium Afternoon Sessions

3:50 - 4:50 Plenary Session (Bayou Building Auditorium)

FEATURING:

TBD

TBD

5:00 Plenary Reception
(Bayou Building Atrium I)
OPEN TO ALL SYMPOSIUM ATTENDEES

For more information contact:
Program Chairman
BILL BEST
(AIAA-Vice Chairman, Technical)
RSOC/R12A-130
283-0261

The American Astronautical Society Southwest Chapter

Presents

"FREEDOM TO LEAD"

SPACE STATION FREEDOM: PROGRESS & BENEFITS

Date: May 8, 1992, Friday
Place: University of Houston--Clear Lake
Primary Audience: AAS -- Southwest Section, NASA/JSC & Contractors, U. S. Congressmen & Staffers, University Academia, Texas Governor's Office, Media.
Support From: AAS -- Space Station Technical Committee, Clear Lake Area Economic Development Foundation, Aerospace Advisor Committee, Keep It Sold Working Group, AIAA.

AAS -- SW Section Chairman: J. M. Vanderploeg, M.D.
AAS SSTC Conference Chairman: John Martinec

7:30 Registration UH-CL Auditorium Lobby
Reception Coffee

8:30 "FREEDOM TO LEAD"

INTRODUCTION J. M. Vanderploeg, M.D., Chairman, AAS -- Southwest Section
General Manager, KRUG Life Sciences Inc., Houston Division

WELCOME Paul J. Weitz, Director (A), NASA/Johnson Space Center
Glenn Goerke, Ph.D., President
University of Houston-Clear Lake

PROGRESS OVERVIEW Richard H. Kohrs, Director
Deputy Associate Administrator (Space Station Freedom)
NASA Headquarters

STATUS: SPACE STATION DEVELOPMENT

WP#2 STATUS Rudy H. Michaelis, Director, Project Office (Space Station Freedom)
McDonnell Douglas Space Systems Company

WP#1 STATUS James R. Merrell, Design Integration Manager
Boeing Missiles & Space Division

WP#4 STATUS George Hallinan, Vice President and Program Manager
Rockwell International, Rocketdyne Division

SPACE STATION FREEDOM ASSEMBLY Astronaut Office, NASA Johnson Space Center

NOON Lunch

1:00 KEYNOTE Congressman George E. Brown, Jr.
Chairman, Science Space and Technology Committee

UTILIZATION Frank Martin, Ph.D., Executive Vice President
American Astronautical Society
Carolyn L. Huntoon, Ph.D., Director
Space and Life Sciences Directorate
NASA/Johnson Space Center

BENEFITS Robert F. Thompson, Vice President/General Manager
McDonnell Douglas Space Systems Company
David Black, Ph.D., Director, Lunar & Planetary Institute

4:00 CLOSE J. M. Vanderploeg, M.D.

