Horizons

Houston, Texas May 1991

Chairman's Corner

John M. Trebes
Chairman

Though our year is not yet over, I find myself reflecting on what has been. Here are a few of the thoughts that have crossed my mind.

The Guest Host idea seems to be a success. A corporate leader of a local aerospace company has had a moment at each dinner meeting to share a picture of their company and its activities with us. Our members have had a chance to meet these leaders in person and they have had a chance to meet us.

Our Educational Committee has been resurrected by Zafar Taqvi and Richard Juday. Their first function was a special luncheon meeting at the Gilruth Center. Dr. John A. Neff of the Optoelectronic Computing Systems Center, University of Colorado at Boulder, spoke on Aerospace Applications of Optical Processing, Computing and Interconnections.

Our Public Policy Committee is under the new management of Steve Clifford of the Lunar and Planetary Institute. With the able assistance of Audrey Schwartz of JSC's New Initiatives Office, the committee is off and running.

Membership is UP and growing. Jim Visentine, our Membership Chairman, has the details elsewhere in this newsletter. Three corporate leaders in our area and the Director of the Johnson Space Center have sent information letters on AIAA to their employees. Also, all new employees at JSC receive an information notice on AIAA.

There is a new excitement in the air about space in our aerospace community. This is mostly something that I sense. I sense it at our dinner meetings. The buzzing during the social hour is up and sounds excited. More and more young faces are coming to our functions. The question and answer periods are longer. More and more attendees are staying to talk to the speakers after the meeting is over. And membership is increasing dramatically.

In This Issue...

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 Vice-Chairman of Operations, Charles Blacknall, telephone 333-3703.

Committee News

Education Activities Revived

Dr. Zafar Taqvi
Education Chairman (Acting)

If what we see now is any indication of future educational and professional development activities, the section membership is up for a special treat in the coming year. Dr. George Nield, JSC, and his Education & Professional Development Subcommittee (EPD) have initiated evaluation of section plans for the coming years. This will provide long range implementation goals in educational activities. The committee's tentative plan calls for activities throughout the year, such as seminars, video conferences and planning continuing education programs.

On Wednesday, April 17, the Education Committee held its first luncheon meeting. Dr. John A. Neff of the Optoelectronic Computing Center, University of Colorado at Boulder, spoke on promising aerospace applications of optical processing, computing and interconnections. Dr. Neff is an outstanding speaker and he gave a fine educational presentation. He has been invited to pay a return visit during the latter part of the year.

Dr. Zafar Taqvi is the acting committee chairman. He can be reached at 333-6544 for any suggestions on educational programs.

Public Policy

Steve Clifford
Public Policy Chairman

The Public Policy Committee is currently working with Dennis Stone of Space Week to put together two panel discussions. Planned topics for the two sessions are the future of the U.S. space program and the role of the space program in stimulating education, particularly for students at risk.

Discussions are under way at this writing to determine dates and explore the possibility of getting some big names for the panels. We expect to have more information next month.

Membership Up

Jim Visentine
Membership Chairman

I am happy to report that in the year from April 1990 to April 1991, our membership increased from 1108 to 1239. Because 162 members were classified as transferred out of the section during that period, this means that we gained 293 new members.

Get Involved

Meeting Announcements

John M. Trebes
Chairman

You can participate in your AIAA without leaving your building.

How can I do this, you ask?

By making a few copies of the dinner meeting, lunch and learn, and other announcements and posting them on bulletin boards and snack rooms in your buildings. This action would be a great multiplier to the efforts already being accomplished by the Section staff.

The objective of this action is to bring the word of our aerospace activities to all members of our aerospace community.

Bill Best and Bill Geissler now mail your AIAA function announcements to three groups: 1) with each monthly mailing of *Horizons*, 2) to the CEO's/General Managers of our local aerospace community, and 3) to a select group of members who have volunteered to post them on bulletin boards. If you would like to be a regular bulletin board poster or are a corporate head not now RECEIVING a separate mailing, please call Bill Best at 283-0261.

Section Activities

WAR '91 A Rousing Success

Dr. Zafar Taqvi
Automation & Robotics Chairman

The Houston Section's Automation & Robotics TC has been successfully conducting Workshops on Automation & Robotics (WAR) since 1988, but this year it was a different story. A new format and a collection of timely topics for the workshop made it a popular event this year. The workshop theme was Space Robotics and the topics covered in the three sessions were Mechanical System Design, Robotic Vision Systems, and Neural Network Applications. Each workshop session was preceded by an in-depth state-of-art tutorial presentation on the topic, which was very helpful to the attendees. About 200 participants, a record for these workshops, attended WAR '91. A reception was held for all attendees after the workshop.

The material presented at the workshop and the questions and answers generated during the discussion process are being compiled. They will be published as WAR '91 Proceedings and mailed to all attendees free of charge.

The noted tutorial presenters were Dr. Del Tesar (UT), Dr. J. K. Agrawal (UT) and Dr. Halmuk Ogmen (UH). The three workshop session leaders were Dr. Clarence Bell (JSC), Dr. C. Chen (Lockheed) and Larry Li (JSC). Designated expert workshop participants were LeBarian Stokes (JSC), Tom Pendleton (JSC), Anne Murray (JSC) and Miriam Zacksenhaus (Lockheed).

The key organizers of the event were Dr. Jon Erickson (JSC), Chairman; Marv White (Lockheed), Co-Chairman; Dr.. Zafar Taqvi (Lockheed), Program Chairman; Charles Price (JSC), Program Co-Chairman; Dr. Clarence Bell (JSC), Tutorial Chairman; and Mary Steward (Lockheed), Registration Chairman.

Don't forget to mark and mail your ballot for Section officers. Your vote counts only if you cast it.

AIAA At Science Fair

André Sylvester
Councillor

The Houston Section participated in the 1991 Houston Engineering Science Fair on April 5, 1991. Our Section was a special awarding agency, selecting a best exhibit in the Junior, Ninth Grade and Senior Divisions.

David Dannemiller coordinated the judging activity, and was assisted by Fred Stawitz, André Sylvester, Bret Picka and Robbin Friedrick.

The winners were: Sharmili Datta of Katy in the Junior Division for "How Does Pitch Angle Affect Load Capacity", Kevin Caldwell of Houston in the Ninth Grade Division for "Conquest of the Sky", and Ashley Hornbeck of Port Bolivar in the Senior Division for "Wing Tips". Each winner received a plaque, a year's student membership in AIAA, and an offer for a guided tour of JSC. Thanks again to the judges for their help in this year's science fair!

Membership Upgrade

Carl Huss
Honors and Awards Chairman

Now is the time to think about upgrading your membership, especially from member to Senior Member and from Senior Member to Associate Fellow. The necessary forms and instructions have been sent to all those eligible for Associate Fellow grade. Remember that, among other requirements, you must be a Senior Member to qualify for Associate Fellow grade.

Upgrade to Senior Member must be initiated by the individual. Remember also that to be considered for Senior Member you must have demonstrated a successful practice in the arts, science or technology of aeronautics or astronautics for the equivalent of at least eight years. Your nomination must be recommended by four persons, two of whom should be AIAA Senior Members or higher. A Bachelor's degree counts for four years, a Master's degree for five years, and a Ph.D. for six years.

(continued on page 4)

Upgrade (cont.)

To obtain the required forms, call our Membership Chairman, Jim Visentine, JSC/ES5, phone 483-8923, or the Honors and Awards Chairman, C. R. Huss, MDSSC/TA121, phone 283-4197. Send Senior Member applications to AIAA, 370 L'Enfant Promenade S.W., Washington, DC 20024-2815, Attn: Membership Upgrade Committee.

There are no additional charges associated with upgrading your membership. It is simply further recognition of your contributions to your chosen profession and the AIAA. It only takes a few minutes to complete the form, so why not do it. Let's get UPGRADE FEVER!

On The Horizon

Neural Network Videocon

IEEE's 42nd video conference, *Neural Network Applications for the 90's*, will be broadcast Thursday, May 23, from 11:00 AM to 2:00 PM CDT. It will be preceded by a one-hour tutorial entitled *What Neural Networks Can Do* from 9:30 to 10:30 AM. This video conference will ***not*** be held in the JSC Gilruth Center. When the location is determined, registrants will be notified of the location by telephone. Refreshments and hors d'oeuvres will be provided.

For reservations, call Andy Lindberg at 483-1474 before May 17.

Who's Who

Last month's *Horizons* listed new members joining the Houston Section between January and June 1990. We continue here with new members joining between July and December 1990. We're glad to have you aboard.

Michael Y. An
Jeffrey J. Arend
Jody R. Augustine
Randall Barnette
Robert T. Buchholz
Lcdr. Daniel W. Bursch
Paul A. Caradec
Dr. Guanrong Chen
Dr. Stephen M. Clifford
Michael C. Copps
J. R. Courtney
Jeffrey H. Cyphert
Bret G. Drake
Robert S. Dunn
Phillip L. Engelauf
Hal T. Flinn
Jack W. Frosch
James T. Gehan
Edward D. Gonzales
David A. Hamilton
Gregory J. Harbaugh
Keely W. Hartsfield
Claudine Hartwell
Ivy F. Hooks
Donald J. Jezewski
Elbert B. Jordan
Dr. Kenneth D. Kihm
Barbara G. Kolkhorst
Douglas D. Krohn
Bill M. Krumrey
Stephen H. Lawton
Scott T. LaRoche
Kathleen M. Leary
Dr. Woon Y. Lee
Barry M. Levitan
Dr. Kamlesh P. Lulla
Richardo M. Machin
Christophe A. Marsh
Jerome E. Maxwell
Jon M. Maynard
Carl D. McFadden
Andrew T. McGuire
Larry Merkel
James S. Moore
George Nossaman
Eric D. Olsson
Javier Ortega
Dr. Jean Ramilison
Joseph R. Riccio
David F. Rico
Michael K. Ross
Albert H. Ruder
Dr. Dane M. Russo
Audrey L. Schwartz
David B. Simpson
Elijah Soloman
George E. Stark
Fred W. Stawitz
Robert W. Stevenson
Pierre J. Thuot
Michael A. Tigges
Dr. Faith Vilas
David Wegner
Dr. John D. Whitcomb
James P. Williams

Video Presentations Planned

The Education Committee of the IEEE Galveston Bay Section has made arrangements to show three recent IEEE video conferences during the month of May. They are *Rapid Development of Software* on May 15, *Expert Systems* on May 22, and *3-D Graphics* on May 29. All showings will take place in the JSC Gilruth Center, room 204, from 1:00 to 4:00 PM. Notes and soft drinks will be provided.

The cost for each conference is $3 for members and students, and $10 for non-members. However, the conference is free to non-members who join IEEE at the presentation.

Reservation deadline is 11:00 AM Friday, May 10. Contact Andy Lindberg at 483-1474 to register.

Technical Activities Calendar

Bill Best
CLCTS Representative

May

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

3 - Friday
LPI Colloquium Series.
"Regoliths of Icy Satellites," Dr. Bruce Hapke, University of Pittsburgh.
LPI, 3303 NASA Rd. 1, Berkner Room, 3:30 PM.
Information: Dr. Deborah Dominique, 486-2167.

6 - Monday
NASA Area Macintosh Users (Group) "NAMU".
Program to be announced.
RSOC Cafeteria, 600 Gemini, 7:00 PM.
Information: Sharyn Best, 488-6522.

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

9 - Thursday
IEEE monthly meeting.
"NASA's Uses of the Global Positioning Satellite (GPS) System", Penny E. Saunders, JSC Communications and Tracking Division.
JSC Gilruth Center, 11:30/12:00 noon.
Reservations by noon May 6.
$5 students, $6 members, $7 others.
Information: Marcia Taylor, 483-0195.

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

15 - Wednesday
IEEE Education Committee video conference.
"Rapid Development of Software".
JSC Gilruth Center, Rm. 204, 1:00 to 4:00 PM.
IEEE members $3, others $10.
Information: Andy Lindberg, 483-1474.

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

16 - Thursday
AIAA 16th Annual Technical Symposium.
Speakers: John Young (morning),
Dr. Hans Mark (afternoon).
UH-CL, 8:00 AM to 5:00 PM.
Information: Alan Shinkman, 333-7508.

Clear Lake SigAda business meeting.
Location TBD, 11:45 AM.
Information: Paul Kennedy, 282-6262.

17 - Friday
LPI Colloquium Series.
"Early Science Results From Hubble Space Telescope", Dr. C. R. O'Dell, Rice University.
LPI, 3303 NASA Rd. 1, Berkner Room, 3:30 PM.
Information: Dr. Deborah Dominique, 486-2167.

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

IEEE Education Committee video conference.
"Expert Systems".
JSC Gilruth Center, Rm 204, 1:00 to 4:00 PM.
IEEE members $3, others $10.

23 - Thursday
IEEE/ISA/CLCTS video conference.
"Neural Network Application for the 1990's".
Location TBD, 10:00 AM to 1:00 PM.
$50 IEEE members, $70-$80 others.
Information: Andy Lindberg, 483-1474.

24 - Friday
LPI Colloquium Series.
"Fires at the K-T Boundary", Dr. Wendy Wolbach, Enrico Fermi Institute.
LPI, 3303 NASA Rd. 1, Berkner Room, 3:30 PM.
Information: Dr. Deborah Dominique, 486-2167.

28 - Tuesday
Bay Area PC Organization (BAPCO) monthly meeting.
"The Magic of Modems" by Hayes.
League City Bank & Trust, 303 E. Main, 7:30 PM.
Information: Steve Metcalf, 554-2300.

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

IEEE Education Committee video conference.
"3-D Graphics".
JSC Gilruth Center, Rm. 204, 1:00 to 4:00 PM.
IEEE members $3, others $10.
Information: Andy Lindberg, 483-1474.

30 - Thursday
Society for Computer Simulation (SCS) monthly meeting.
"Total Quality Management in Simulation: Myths to be Broken, Rumors to be Squelched, and Doors to be Opened", Gerry Moorman, Lockheed Engineering.
Lockheed Plaza 3, 1150 Gemini, 11:45 to 12:45.
Information: Wade Webster, 244-4306.

LPI Colloquium Series.
"Tunnel Vision and the K-T Boundary Controversy", Dr. Virgil Sharpton, LPI.
LPI, 3303 NASA Rd. 1, Berkner Room, 3:30 PM.
Information: Dr. Deborah Dominique, 486-2167.

June

3 - Monday
NASA Area Macintosh Users (Group) "NAMU".
"System 7.0", Apple Computer.
RSOC Cafeteria, 600 Gemini, 7:00 PM.
Information: Sharyn Best, 488-6522.

7 - Friday
CLCTS Annual Awards Banquet.
JSC Gilruth Center, 6:00 PM.
Information: Andy Lindberg, 483-1474.

13 - Thursday
Texas Society of Professional Engineers installation of officers and barbeque.
King's Inn, 1301 NASA Rd. 1, 6:00 PM.
Reservations required.
Information: 338-2966 (Stevens Engrg.) or 485-2404.

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

AIAA 16th ANNUAL TECHNICAL SYMPOSIUM
"CHALLENGES OF THE 90'S"

SESSION 1

HUMAN SUPPORT

CHAIRPERSON: DR. HATICE CULLINGFORD

ROOM 1-214

AUTHOR	TITLE OF PRESENTATION	TIME
O'NEIL, M.;RUDISILL, M.,PHD.	IMPROVEMENT OF HUMAN COMPUTER INTERFACES TO ELECTRONIC PROCEDURES	9:20
LOFTIN, K.; LY, B.; VERLANDER, J.;WEBSTER, L.; TATLOR, G.; RILEY, G.; CULBERT, C.	THE APPLICATIONS OF INTEGRATED KNOWLEDGE-BASED SYSTEMS FOR THE BIOMEDICAL RISK ASSESSMENT INTELLIGENT NETWORK (BRAIN)	9:40
TRAN, L.; WEISS, J., PHD.	FUZZY-LOGIC SUPPORT DEVELOPMENT FOR SPACE MICROBIOLOGIST	10:00
MURBACH, M.	DESIGNING ARTIFICIAL GRAVITY/0-G COUNTERMEASURE SYSTEMS FOR MARS MISSIONS	10:40
LITTLE, J.; BOOHER, C.	DEVELOPMENT OF HUMAN FACTORS STANDARDS FOR SPACE EXPLORATION	11:00

SESSION 2

AERODYNAMICS AND FLIGHT MECHANICS

CHAIRPERSON: MAGDY WAHBAH

ROOM 1-226

AUTHOR	TITLE OF PRESENTATION	TIME
CAMPBELL, C.; CARAM, J.	CFD AND AEROTHERMALDYNAMIC ANALYSIS OF A VIKING AEROSHELL CONFIGURATION FOR THE ASSURED CREW RETURN VEHICLE (ACRV)	9:20
HAKES, C.	MONTE CARLO CALCULATIONS OF MOLECULAR DENSITY	9:40
BOWLING, D.	THE STATE OF TRIM IN RIGID BODY FLIGHT DYNAMICS	10:00
FRIESEN, L.; JACKSON, A.; ZOOK, H.; KESSLER, D.	GEO IN A COCKED HAT: A STABLE INCLINED GEOSYNCHRONUOS ORBIT WITH LIMITED PLANE PRECISION	10:20
HYDE, J.; SNELL, J.	EFFECT OF ORBITER FLIGHT ATTITUDE ON THE METEOROID AND DEBRIS HAZARD	10:40
JEZEWSKI, D	LANDING SITES CAN BE OPTIMALLY ACHIEVED	11:00

AIAA 16th ANNUAL TECHNICAL SYMPOSIUM
"CHALLENGES OF THE 90'S"

SESSION 3

COMMUNICATIONS AND SATELLITE IMAGERY

CHAIRPERSON: DR. DAVID PITTS

ROOM 1-222

AUTHOR	TITLE OF PRESENTATION	TIME
SALAZAR, G.; SOMMERS, M.	SPACE SHUTTLE VOICE RECOGNITION FLIGHT EXPERIMENT	9:20
HADDICK, C.; SPAHN, C.; VILLARREAL, R.	A PROPOSED SPACE SHUTTLE AUXILIARY VOICE/DATA CHANNEL BASED ON INTERNATIONAL ISDN STANDARDS	9:40
LU, B.; HWU, S.; PANNETON, R.	SPACE SHUTTLE UHF ANTENNA PATTERN AND COVERAGE ANALYSIS WHEN DOCKED WITH SPACE STATION	10:00
BHASKAR, R.	A STUDY OF TECHNIQUES TO IMPROVE THE EFFECTIVE RESOLUTION OF A MULTIBAND SENSOR'S THERMAL INFRARED IMAGERY	10:20
ISRAEL, S.; WHITEHEAD, V.	OBSERVATIONS AND ANALYSIS OF POLARIZED LIGHT IMAGERY FROM SPACE SHUTTLE AND HELICOPTER	10:40
LULLA, K.	DIGITIZATION AND IMAGE PROCESSING OF SHUTTLE PHOTOS OF ASIAN LAKES FOR CHANGE DETECTION	11:00

SESSION 4

COMPUTERS AND SOFTWARE SYSTEMS

CHAIRPERSON: KAREN LEE-TAYLOR

ROOM 1-220

AUTHOR	TITLE OF PRESENTATION	TIME
BAUMAN, N.	TSS FLUINT MODELER: A GRAPHICAL REPRESENTATION AND USER-INTERFACE FOR SINDA85/FLUINT	9:20
GOUVEIA, J.	LEVEL 8 GN&C TESTING CRITERIA CHECKER SYSTEM	9:40
GERCEK, G., PHD.	SPACE STATION BACKBONE NETWORK ARCHITECTURE	10:00
DO, M.; HANSEN, R.; LEHMAN,R.	SPACE STATION FREEDOM COMMAND AND DATA FLOW	10:20
GUISINGER,R.	MANAGING COMPLEX SPACE STATION SOFTWARE REQUIREMENT	10:40
LEE-TAYLOR, K.	THE EVOLVING ENTERPRISE-WIDE CONCEPTUAL DATA MODEL	11:20
NOTEBOOM, R.; TROEGER, L.	VERIFICATION AND VALIDATION - ITS PURPOSE AND TECHNIQUES	11:40

AIAA 16th ANNUAL TECHNICAL SYMPOSIUM
"CHALLENGES OF THE 90'S"

SESSION 5

ENERGY SYSTEMS

CHAIRPERSON: PAUL ROFFMAN

ROOM 1-130

AUTHOR	TITLE OF PRESENTATION	TIME
MILLER, K.	TWO PHASED STRATIFIED FLOW REGIME TRANSITION MODELING USING A FORCE BALANCE EQUATION	9:20
DEES, J.	NON-IMAGING OPTICS, RADIATION CONCENTRATION BREAKTHROUGH: A SURVEY OF POSSIBLE APPLICATIONS TO THE SPACE PROGRAM	9:40
KELLY, W.; HILL, C.	SOLAR PANEL TRACKING IN LOW EARTH ORBIT WITH EARTH ORIENTED SPACECRAFT	10:00
MORTENSON, M.; SAULS, B.	SOLAR ENERGY EMPLACEMENT DEVELOPER	10:20
CRISWELL, D., PHD.	LUNAR-BASED POWER SYSTEM TO SUPPLY EARTH WITH ELECTRIC POWER	10:40
JOHNSON, P.	POWER SYSTEM TRADE STUDY FOR MARS ROVER SAMPLE RETURN: RADIOISOTOPE THERMOELECTRIC GENERATOR VS PHOTOVOLTAIC ARRAY	11:00

SESSION 6

MATERIALS AND STRUCTURES

CHAIRPERSON: DON PROBE

ROOM 1-311

AUTHOR	TITLE OF PRESENTATION	TIME
ALBYN, K.	IMPROVEMENTS IN THE MEASUREMENT OF VOLATILE CONDENSABLE MATERIALS AT THE JSC	9:20
MONTELEONE, F.	PROPERTIES OF PLASTIC FILMS AND LAMINATES USED AS PACKAGING MATERIALS IN AEROSPACE APPLICATIONS	9:40
METTU, S.; FORMAN, R.	A NEW STRESS INTENSITY SOLUTION FOR CYLINDRICAL PRESSURE VESSELS	10:00
SHAMALA, A.	FRACTURE CONTROL ON PRESSURIZED SYSTEMS OF PAYLOADS	10:20
NGUYEN, B.; HAMILTON, D.; TENGLER, N.; LAURITZEN, C.	A REVIEW OF SPACE SHUTTLE LIFT-OFF FLIGHT DATA AND ANALYSIS COMPARISON	10:40
ZIPAY, J.	DESIGN AND TESTING OF AEROASSIST FLIGHT EXPERIMENT (AFE) AEROBRAKE	11:00
ZIPAY, J.	STRESS ANALYSIS OF THE AEROASSIST FLIGHT EXPERIMENT (AFE) AEROBRAKE	11:20
LUEKE, W.	AN UPDATE - MODERNIZATION OF A NASA/JSC ARC-HEATED WIND TUNNEL REENTRY ENVIRONMENT TEST FACILITY	11:40

AIAA 16th ANNUAL TECHNICAL SYMPOSIUM
"CHALLENGES OF THE 90'S"

SESSION 7

SIMULATION

CHAIRPERSON: DR. SIVARAM ARAPELLI

ROOM 1-315

AUTHOR	TITLE OF PRESENTATION	TIME
FUCHS, J.	SYSTEMS ENGINEERING SIMULATOR MULTI-FUNCTION CRT DISPLAY SYSTEM	9:20
MOORE, J.	PTI PILOTING AID DISPLAY	9:40
ELLENBERGER, S.	SIMULATION TEST EVALUATION PROJECT (STEP)	10:00
KANE, P.	AN ADA MULTI-BODY REAL-TIME SIMULATION WITH DOCKING	10:20
NEWELL, M.	SES AFT CREWSTATION EMULATION FOR THE SPACE STATION CUPOLA	10:40
SUBEALDEA, F.	MULTI-MANIPULATOR VEHICLE SIMULATIONS ADAPTED TO A DISTRIBUTED REAL-TIME MAN-IN-THE-LOOP SIMULATOR	11:00
VEERASAMY, S., PHD.	A REAL-TIME SIMULATED BERTHING TEST	11:20
VU, B.	USER INTERFACE DESIGN FOR REAL-TIME SIMULATORS IN THE SYSTEMS ENGINEERING SIMULATOR (SES)	11:40

SESSION 8

ROBOTIC KINEMATICS

CHAIRPERSON: DR. ZAFAR TAQVI

ROOM 1-317

AUTHOR	TITLE OF PRESENTATION	TIME
PORITZ, D., PHD.	AN EASY DERIVATION OF FORWARD KINEMATICS	9:20
PORITZ, D., PHD.	THE TRUE ROLE OF THE PSUEDOINVERSE IN INVERSE KINEMATICS	9:40
CIANGARU, G.	SPATIAL OPERATOR ALGEBRA FOR MULTIPLE-ARM ROBOT DYNAMICS	10:00
BHATTA, M.; TRAN, T.	A FORMULATION OF THE POSITION AND ORIENTATION HOLD SELECT MODEL FOR THE REDUCTION OF UNCOMMANDED MOTION IN AN N-LINK MANIPULATOR	10:20
WEGNER, D.	OPERATIONALLY DESIRABLE CHARACTERISTICS OF SSRMS KINEMATICS ALGORITHMS	10:40
BIGLARI, S.; ANANTHAKRISHNAN, S.; MARTIN, T.; WAHBAH, M.	MOBILE REMOTE MANIPULATOR PRELIMINARY CONTROL DESIGN AND ANALYSIS	11:00
HELTON, S.; BLACK, E.; ABUISI, D.	A RIGID DYNAMIC REMOTE MANIPULATOR SYSTEM SIMULATION FOR ASTRONAUT TRAINING IN THE SHUTTLE MISSION SIMULATOR	11:20

AIAA 16th ANNUAL TECHNICAL SYMPOSIUM
"CHALLENGES OF THE 90'S"

SESSION 9

SPACE SYSTEMS II

CHAIRPERSON: DUSTIN HAMM

ROOM 1-316

AUTHOR	TITLE OF PRESENTATION	TIME
CULPEPPER, W.; VICTOR, J.	ON-BOARD SSF DEBRIS MONITOR	9:20
SNYDER, M.	STS-31 EXTERNAL TANK BREAKUP OPTICAL ANALYSIS	9:40
DAVIS, S.	A METHOD FOR POWER LIMITED VEHICLE DESIGN AND MISSION PLANNING TRADE STUDIES	10:00
ANZ-MEADOR, P. ,PHD.; PINEDO, J.	THE ORBITAL DEBRIS AND METEOROID THREAT	10:20
DOUGLAS, B.	MICROMETEOROID/ORBITAL DEBRIS ADVANCED SHIELD CONCEPTS	10:40
O'NEILL, C.; CLARK, D.; TALENT, D.	SIMULATION OF PHYSICAL AND ORBITAL CHARACTERISTICS FOR THE GET AWAY SPECIAL CALIBRATION EXPERIMENT	11:00
SEGA, R.; IGNATIEV, A.; BONNER, T.	THE WAKE SHIELD FACILITY AS A FREE-FLYER	11:20

SESSION 10

SPACE SYSTEMS I

CHAIRPERSON: SONYA SEPAHBAN

ROOM 1-314

AUTHOR	TITLE OF PRESENTATION	TIME
TEMPLIN, S.	SHUTTLE EVOLUTION PHASE II CREW ESCAPE STUDY	9:20
STONE, D.	SYSTEM ENGINEERING OF THE ACRV	9:40
PETRO, A.	CONCEPTS FOR A PERSONNEL LAUNCH SYSTEM	10:00
DAVIS, W.; HANBY, W.	STANDARDIZED EXPERIMENT INTERFACES FOR RACK MOUNTED PAYLOADS	10:20
AGHILI, R.; KING, S.	ORBITER/EXTERNAL TANK AFT ATTACH SEPARATION SYSTEM DYNAMICS ANALYSIS	10:40
ALLEN, M.	AERODYNAMIC DTO DEVELOPMENT FOR ORBITER CG EXPANSION	11:00
AZZI, E.	POTENTIAL FLOW ANALYSIS IN THE SPACELAB CABIN	11:20

AIAA 16th ANNUAL TECHNICAL SYMPOSIUM
"CHALLENGES OF THE 90'S"

SESSION 11

CONTROL AND NAVIGATION

CHAIRPERSON: DR. ABDUL HYE

ROOM 1-214

AUTHOR	TITLE OF PRESENTATION	TIME
ZIMMERMAN, P.	IMPACTS OF TETHER CUT ON NAVIGATION OPERATIONS	1:00
PIDO, J.	ONBOARD STATE VECTOR UPDATE STUDY FOR TSS-1 DEPLOY, ONSTATION, AND RETRIEVAL PHASES	1:20
HYE, A., PHD.	JSC AVIONICS ENGINEERING LABORATORY ASCENT ACCEPTANCE TEST	1:40
ZIMPEFER, D.; BARRINGTON, R.	ALT MODE-AN OVERVIEW	2:00
DEBITETTO, P.; ZIMPFER, D.	ALT MODE - A FIXED DELAY METHOD OF DYNAMIC LOADS REDUCTION FOR THE SPACE SHUTTLE ON-ORBIT AUTOPILOT	2:20
FEUERSTEIN, D.	SHUTTLE TRAINING AIRCRAFT GLOBAL POSITIONING SYSTEM FLIGHT TEST	2:40
HALL, R.	ORBITER CONTROL REQUIREMENTS TO ENSURE RELEASE OF EARLY SPACE STATION CONFIGURATIONS INTO A GRAVITY GRADIENT STABLE ATTITUDE	3:20
CARMODY, R.	POLAR MOTION EFFECT ON SPACE NAVIGATION	3:40

SESSION 12

INFORMATION SYSTEMS

CHAIRPERSON: SHERLIE BRANDT

ROOM 1-226

AUTHOR	TITLE OF PRESENTATION	TIME
TRAN, L.	PATTERN RECOGNITION SYSTEM UTILIZING NEURAL NETWORKS	1:00
LOCK, S.	LIFENET: ELECTRONIC COMMUNICATION LINKING LIFE SCIENCES	1:20
MINER, C.	THE UTILIZATION OF INFORMATION TECHNOLOGY	1:40
KUSIK, E.	EMPOWERING A KNOWLEDGE INTENSIVE BUSINESS AND THE ROLE OF ENABALING TECHNOLOGIES	2:00
FRERE, B.	AUTOCHAP - IN SEARCH OF A PAPERLESS MEETING	2:20
NGO, T.	GN&C ASSOCIATE & TRAINER USING HYPERMEDIA TO IMPROVE MISSION ANALYSIS	2:40
THORN, P.; ROBERTSON, E.	CREATION OF A SHUTTLE PHASE B AERODYNAMIC DATABASE ON AN IBM CLONE	3:00

AIAA 16th ANNUAL TECHNICAL SYMPOSIUM
"CHALLENGES OF THE 90'S"

SESSION 13

SYSTEMS ENGINEERING

CHAIRPERSON: MARV WHITE

ROOM 1-222

AUTHOR	TITLE OF PRESENTATION	TIME
VILLARREAL, R.	IMPLEMENTATION OF A 2400 BPS MODEM FOR THE SPACE SHUTTLE ORBITER AUDIO SYSTEM	1:00
OLIVER, A	SYSTEMS ENGINEERING SIMULATOR CONFIGURATION CONTROL SYSTEM VERSUS THE NEXT GENERATION SES ADVANCED CONFIGURATION MANAGEMENT REQUIREMENTS	1:20
MCGAHEE, W.; SPRUELL, S.	A SYSTEMS ENGINEERING TOOL FOR CONFIGURATION MANAGEMENT	1:40
JENKS, K.	MISSION OPERATIONS FOR THE SPACE EXPLORATION INITIATIVE	2:00
BARNHART, E.	SUCCESSFUL ANALYSIS REQUIRES MULTIPLE METHODOLOGIES	2:20
RIED, S.	INTEGRATING THE AEROBRAKE FROM DESIGN TO METHODOLOGIES HARDWARE	2:40
MCGUIRE, A.	OPTIMAL TRAJECTORY CONTROL USING THE LINEAR QUADRATIC TRACKER IMPLMENTATION STUDY	3:00

SESSION 14

MANAGEMENT

CHAIRPERSON: DR. JOHN HUNSUCKER

ROOM 1-220

AUTHOR	TITLE OF PRESENTATION	TIME
AUTHIER, A.; QUINTELA, D.; CHULLEN, C.	INNOVATIONS FOR EFFECTIVE TECHNICAL CONTRACT MANAGEMENT	1:00
SHAH, J.; HUNSUCKER, J., PHD.	PRACTICAL GUIDELINES FOR TRANSITION MANAGEMENT	1:20
MARTINEZ, J.; HUNSUCKER, J., PHD.	MANAGING BY DUE DATES	1:40
SANTOS, D.; HUNSUCKER, J., PHD.	THE EFFECTS OF ADDING AN ADDITIONAL MACHINE TO FLOW SHOP ENVIRONMENT	2:00
SMITH, M.	DATA MANAGEMENT INTEGRATION FOR THE SPACE STATION FREEDOM PROGRAM	2:20

AIAA 16th ANNUAL TECHNICAL SYMPOSIUM
"CHALLENGES OF THE 90'S"

SESSION 15

MATH MODELING

CHAIRPERSON: BILL GEISSLER

ROOM 1-130

AUTHOR	TITLE OF PRESENTATION	TIME
AN, M.; BOUSLOG, A.; DERRY, S.	CALCULATIONS OF LAMINAR HEATING RATES ON 3-D BODIES USING AXISYMMETRIC ANALOGY	1:00
GOTTLIEB, R.	ON THE OPTIMAL USE OF FICTITIOUS TIME IN VARIATION OF PARAMETERS METHODS WITH APPLICATION TO BG14	1:20
SKYLES, L.; SOLOMON, S.	KINEMATICS AND LOADS ANALYSIS OF ORBITER MECHANICAL SYSTEMS USING I-DEAS SOLID MODELING	1:40
GOTTLIEB, R.	A UNIVERSAL SOLUTION FOR THE PERIGEE TO RADIUS PROBLEM APPLIED TO MINIMUM WEDGE ANGLE TARGETING	2:00
FLORES, R.; FULGHAM, K.	NON-REAL TIME PLUME IMPINGEMENT SIMULATION USINGREAL TIME SIMULATION DATA	2:20

SESSION 16

PROPULSION

CHAIRPERSON: ANDRE' SYLVESTER

ROOM 1-311

AUTHOR	TITLE OF PRESENTATION	TIME
GREATHOUSE, J.; RODRIGUEZ, O.	FRCS HYDROGEN INGESTION ANALYSIS	1:00
TEMPLIN, K.; MALLINI, C.	SHUTTLE PERFORMANCE ENHANCEMENTS USING AN OMS PAYLOAD BAY KIT	1:20
GLANDORF, D.	OPTIMAL JET UTILIZATION FOR SPACE STATION FREEDOM REBOOST	1:40
PESEK, D.	INJECTION WINDOWS FOR CYCLING BETWEEN THE CISLUNAR AND CISMARTIAN LIBRATION POINTS USING NUCLEAR ELECTRIC PROPULSION	2:00
ROCHON, B.; ROYOS, E.; WEST, M.	LOADS METHODOLOGY FOR ORBITER TO FREEDOM REACTION CONTROL JET PLUME IMPINGEMENT	2:20

AIAA 16th ANNUAL TECHNICAL SYMPOSIUM
"CHALLENGES OF THE 90'S"

SESSION 17

ROBOTICS

CHAIRPERSON: DR. M. G. BHATTA

ROOM 1-317

AUTHOR	TITLE OF PRESENTATION	TIME
TAQVI, S., PHD.	TECHNOLOGY TRENDS IN ROBOTICS ?	1:00
CIANGARU, G.; KILLINGSWORTH, S.	KINEMATIC CONTROL OF THE FLIGHT TELEROBOTICS SYSTEM	1:20
SMITH, T.	ROBOTIC VISION AND TRACKING WITH THE APA512 MACHINE VISION PROCESSOR	1:40
LYONS, D.; ALLTON, J.	AUTONOMY TELEOPERATION FOR MARS ROVER: ACHIEVING AN APPROPIATE BALANCE FOR GEOLOGY TASK	2:20
TESTA, B.	SPACE STATION ROBOTICS PLANNING TOOL CONCEPTS	2:40

SESSION 18

SPACE ENVIRONMENT

CHAIRPERSON: DR. SIVARAM ARAPELLI

ROOM 1-315

AUTHOR	TITLE OF PRESENTATION	TIME
AREPALLI, S.	FLOW DIAGNOSTICS FOR THE ARC JET FACILITITY	1:00
WANG, K.;HUGHES, R.; DERRY, S.; JANSEN, M.	PREDICTION OF PLUME RADIATIVE HEATING ON A VEHICLE	1:20
SIEWART, S.	USING TRAPPED PARTICLE MAPPINGS TO MCILWAIN B,L SPACE TO MODEL SOUTH ATLANTIC ANOMOLY	1:40
TING, P.; ROCHELLE, S.; TAM, L.; BOUSLOG, S.; SCOTT, C.; CURRY, D.	AFE AERODYNAMIC HEATING WITH NON-EQUILIBRIUM, NON-ISENTROPIC BOUNDRY LAYER EDGE CONDITIONS	2:00
SAPP, C.	EXTRACTION OF THREE-DIMENSIONAL DATA FROM TWO-DIMENSIONAL IMAGERY USING POLYGON MODELS	2:20
****	SIMULATION OF INTELSAT VI(F-3) REBOOST MISSION IN SES	2:40

AIAA 16th ANNUAL TECHNICAL SYMPOSIUM
"CHALLENGES OF THE 90'S"

SESSION 19

SPACE EXPLORATION INITIATIVE

CHAIRPERSON: JERRY BELL

ROOM 1-316

AUTHOR	TITLE OF PRESENTATION	TIME
JENKINS, L.	EXTENDING MISSION TO PLANET EARTH TO DEAL WITH ENVIRONMENT CHANGE	1:00
KAPLAN, D.	ARCHITECTURE OPTIONS FOR THE SPACE EXPLORATION INITIATIVE	1:20
FRAIETTA, M.	LIBRATION POINT STATION KEEPING FOR SATELLITES IN THE EARTH-MOON SYSTEM	1:40
JOOSTEN, B.	LUNAR MISSION DESIGN STRATEGIES FOR THE SPACE EXPLORATION INITIATIVE	2:00
SPONAUGLE, S.	UTILIZING THE CISMARTION LIBRATION POINT FOR MARS EXPLORATION	2:20
WALYUS, D.	HIGH FIDELITY, LOW THRUST TRAJECTORIES BETWEEN EARTH AND MARS	2:40
MCCLEARY, B.	A SURVEY OF MARS VEHICLE MASS SIZING ASSUMPTIONS FOR CHEMICAL/AEROBRAKE AND NUCLEAR THERMAL PROPULSION OPTIONS	3:00
****	THE FUTURE OF THE SHUTTLE IN MANNED MISSION	3:20

SESSION 20

SPACE SYSTEMS III

CHAIRPERSON: CHRIS BURMEISTER

ROOM 1-314

AUTHOR	TITLE OF PRESENTATION	TIME
DAGGS, C.; BLAKE, M.	SOLID MODELLING AND ANALYSIS OF SPACE STATION FREEDOM AT THE JOHNSON SPACE CENTER	1:00
WOOD, R.	WOOD's ADAPTIVE ROBUST LOAD-OPERATING CONTROLLER: NEW GUIDANCE FOR MARS & EARTH DESCENT APPLICATIONS	1:20
REXRODE, S.	BENIFITS FOR A SPACE SHUTTLE/SPACE STATION FREEDOM TETHER SYSTEM	1:40
KINGSFORD, K.	PROBABILITIES OF SUCCESSFUL FLIGHT DAY 3 EVA ATTEMPT FOR SPACE STATION FREEDOM FLIGHTS	2:00
GONZALEZ, M.	THE PHASE 3 TRANSPORTATION NODE STUDY	2:20
EVERETT, S.	CISLUNAR LIBRATION POINT AS A TRANSPORTATION NODE FOR LUNAR EXPLORATION	2:40

AIAA Horizons

OUTSTANDING SECTION AWARD

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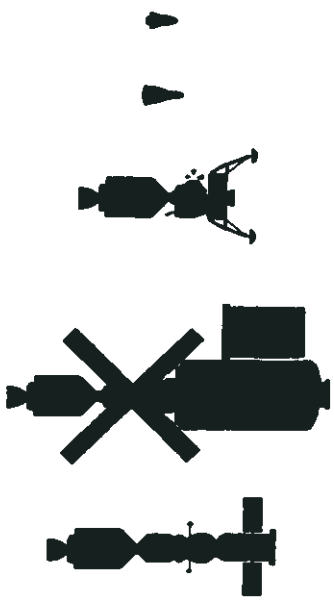
1976-1977
1979-1980
1980-1981
1981-1982
1983-1984
1986-1987
1988-1989



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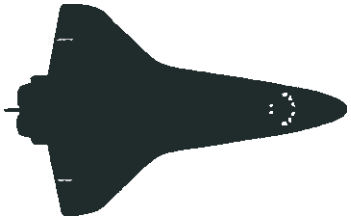

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16TH ANNUAL TECHNICAL SYMPOSIUM

CHALLENGES OF THE 90's

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

THURSDAY, MAY 16, 1991
AT THE UNIVERSITY OF HOUSTON - CLEAR LAKE

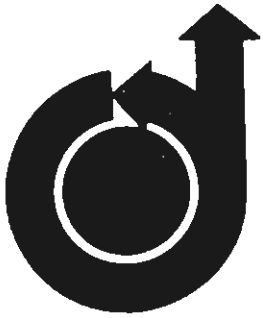
General Chairman	Opening Speaker	Plenary Speaker
Dr. Maurice (Moe) Miller	John Young	Dr. Hans Mark
VP and Engineering & Sciences	Special Assistant for	Chancellor
Program Manager	Engineering, Operations & Safety	The University of
Lockheed Engineering & Sciences Co.	Johnson Space Center	Texas System

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

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

JOHN YOUNG

"THE FIRST TEN YEARS OF SPACE SHUTTLE FLIGHTS"



9:20 - 12:00 Concurrent Symposium Morning Sessions
(Presentations will start at 20 minute intervals)

12:00 - 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:

Dr. HANS MARK

"THE HUMAN EXPLORATION OF THE SOLAR SYSTEM"

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

For more information contact:
Program Chairman
ALAN SHINKMAN
(AIAA-Vice Chairman, Technical)
LESC/C83
333-7508

AIAA HOUSTON SECTION ANNUAL ELECTIONS

The 1991-92 Section Nomination Committee consisting of Andre Sylvester, Dr. Zafar Taqvi (chairman), and John Trebes has come up with the attached slate of officers and councillors for the 1991-92 AIAA Houston Section term of office. These candidates have agreed to serve the Section to the best of their capabilities. Only one candidate has been nominated for each available position, but the membership is free to vote for any write-in candidate of their choice.

Please mark your ballots and return to Paul Judas, AIAA Section Secretary, Mail Code MDC/B1SA (for local inter-office mail) or to Section Post Box. on or before May 20, 1991

1991-92 AIAA HOUSTON SECTION ELECTION

BIOGRAPHIES OF THE CANDIDATES

STEVE ZOBAL — CHAIRMAN-ELECT

Steve Zobal holds a BS in Aeronautical Engineering from Texas A&M University and is currently serving as Sr. Manager of Quality Systems at McDonnell Douglas Space Systems Company-Houston Division. Since joining MDC in 1969, Steve's technical assignments included mission analyses and G&C assessments for Viking (Mars Soft Lander), STS and the National aerospace Plane. Prior to joining MDC, he performed engineering and system analyses for Surveyor mission (General Dynamics - Astronautics) and the Saturn IB/Apollo program (Chrysler Space Division).

Steve has been active in local community affairs and is currently serving as Treasurer of the Houston Section AIAA.

DR. SARWAR NAQVI — VICE-CHAIRMAN OPERATIONS

Dr. Sarwar Naqvi has served the AIAA Houston Section for over 15 years. He was Membership Chairman in 1978-79 and 1979080, Vice-Chairman Technical in 1980-81, Councilor in 1981-82, and Program Committee Chairman 1989-90. He won first place award nationally as membership chairman both years, and provided a much broader base to the annual symposium during his tenure as Vice Chairman Technical. Sarwar has also served other professional societies in the US and abroad, such as the Instrument Society of America (ISA), the Institute of Electrical and Electronics Engineers (IEEE), the Royal Aeronautical Society (RSeS) London, the Institute of Engineers Pakistan (IEP), and the Pakistan Engineering Council (PEC). He is an Associate Fellow of AIAA, Senior Member of ISA, and a Fellow of IEP.

Presently Dr. Naqvi works in the Flight Analysis and Design System Project Office with the Rockwell Space Operations Company. Prior to joining Rockwell, has worked with McDonnell Douglas supporting MPAD in GN&C and with IBM on the verification of the Space Shuttle onboard software. Sarwar has a Ph.D. in Aeronautical Engineering from Rice University.

BILL BEST — VICE-CHAIRMAN TECHNICAL

Bill Best has been a member of AIAA since 1957. He was elected associate fellow in 1989. Presently he is the AIAA representative to the Clear Lake Council of Technical Societies and chairman of the AIAA "Horizons" mailout committee.

Bill has been with Rockwell International for 17 years, the last five with the Rockwell Space Operations Company. He is a lead engineer in the Test Requirements group responsible for the production of test procedures (TCPs) used in the Shuttle Avionics Integration Laboratory (SAIL). During his aerospace career he has been associated with Nike Zeus, Thor Delta, Apollo, Skylab and the Shuttle programs. He has worked in design, checkout, production, analysis, simulation, flight planning and as aflight controller on Apollo.

CHRIS BURMEISTER — TREASURER

Chris Burmeister is a Senior Associate Engineer in the Navigation, Control, and Aeronautics Department at Lockheed Engineering & Sciences Co. Since coming to Houston in 1988, Chris has coordinated facilities for the AIAA Region IV Student Paper Competition when it was held in Houston in April 1989 and April 1991. As the chairman of the Guidance, Navigation, and Control (GN&C) Technical Committee of the section, he organized and chaired a GN&C Invited Lecture Seminar in February 1990. He has chaired AIAA Technical Symposium sessions since 1989.

Chris has a BS in Aerospace Engineering from the University of Kansas in 1988.

DUSTIN G. HAMM — SECRETARY

Dustin Hamm graduated from Embry-Riddle Aeronautical University (Arizona Campus) with a BSAE in April 1990. During the college days he served as the treasurer of AIAA Student Branch. He is currently employed in the Flight Design and Dynamics Division of Mission Operations, NASA/JSC. His work is related to the flight dynamic issues for nominal and contingency operations during the STS-46/Tethered Satellite System mission that will be launched in July 1992.

WILLIAM H. GEISSLER COUNCILLOR

Bill served Houston Section AIAA as Vice Chairman Technical in 1988-89 and has been an active councillor for the last two years. As a councillor he is also presently serving as chairman of the Membership Development and Retention Subcommittee . He also publishes the monthly dinner flier. He has also assisted in publishing this year's Technical Symposium abstract book.

Bill has been a member of AIAA since 1966 and is presently a Project Manager with Lockheed Engineering & Sciences Company.

WALTER J. LUEKE COUNCILLOR

Walter J. Lueke has been at NASA/JSC since 1980 in the structures and Mechanics Division-Experimental Heat Transfer section, and a member of the AIAA since 1981. He is a Project Engineer incharge of reentry environment testing of thermal protection systems for the space shuttle and manned spacecraft at the Atmospheric Reentry Materials and Structures Evaluation Facility. Walt was our Section Chairman 1989-90 and Vice Chairman Technical 1986-87. He served as Section Councillor for two years after completing his section chairman term. He is currently assigned to chair section's 35th anniversary celebration committee.

Walt has a BA from the University of Nebraska, a BSME from Wichita State University, and a MME from Rice University.

EMYRE' B. ROBINSON COUNCILLOR

Emyre" barrios Robinson is founder and Chairman Emeritus having served as Chairman, President and Chief Executive Officer of Barrios Technology from 1980-90. She currently serves on numerous boards of business and charitable organizations in the Clear Lake area and Houston. She has been supportive of the AIAA as an Associate fellow, and has encouraged her employees to join the organization and participate in the AIAA activities for many years. She also serves on the Building Committee (Clear Lake Engineering Center) of the Clear Lake Council of Technical Societies.

BOB SAVELY COUNCILLOR

Bob Savely is a twenty year AIAA member and currently supports AIAA National as a member of the Artificial Intelligence Technical Committee, and the Houston Section as a member of the Total Quality/Vision Symposium Conference and Workshop Subcommittee. Bob is employed by NASA and is Chief of the Software Technology Branch. He has served as technical chairman for a number of national and international conferences on Space operations and/or Computer Science and has served as Associate Director of the ISA Robotics and Expert Systems Division. He is also a member of IEEE and AAAI. Bob has recived numerous awards including the NASA Exceptional Service Medal and Technical Person of the Year Award from the Clear Lake Council of Technical Societies.

DR. J. CLAYTON SHADECK COUNCILLOR

Dr. Shadeck is the Director of GE Government Service's Houston Operations. and is responsible for science support, engineering, development, mission and payload integration, maintenance, and operations for NASA's life sciences experiments. Earlier he was Director of Space Systems Engineering for Ford Aerospace (now LORAL) in Maryland, where his responsibilities included turnkey development of control centers and archival systems, engineering services, spaceflight engineering, and O&M for NASA, NOAA, and Navy unmanned missions. Earlier he was the manager of JSC Programs for Ford Aerospace in Houston, responsible for development, integration, sustaining engineering, operations, and maintenance activities for two major JSC contracts.

Clay is an Associate Fellow of the AIAA. Earlier he served the section as Programs Chairman. He organized a lecture series on Spacecraft Design which won national first place honors, AIAA Special Events, for the Houston Section.

Dr. Shadeck has a BS (Magna Cum Laude), MS, and a Ph.D. in Mathematics from the University of California. He is a member of Phi Beta Kappa and Pi Mu Epsilon (National Honorary mathematics Fraternity)

MARV WHITE COUNCILLOR

Marv White is Director of Spacecraft Engineering at Lockheed and is responsible for JSC support in crew systems, automation, robotics, intelligent systems, active thermal control, structures, materials, propulsion, power and a wide range of test operations. He is an Associate Fellow of AIAA and has been a member since 1981. Marv has served as Houston Section Secretary, and has been a councillor for two part terms. He has been an important resource to encourage participation in the technical symposium and is now a member of the section's Total Quality and Vision (TQ/V) Committee. Marv have been very active in continuous quality improvement, also known as Total Quality Management, at JSC and within Lockheed. He is a strong supporter of AIAA being proactive in implementation and installation of TQM in the professions. Marv received the Silver Knight of Management Award in 1988

He is a native of Fort Worth, Texas, and a graduate of Texas Christian University.

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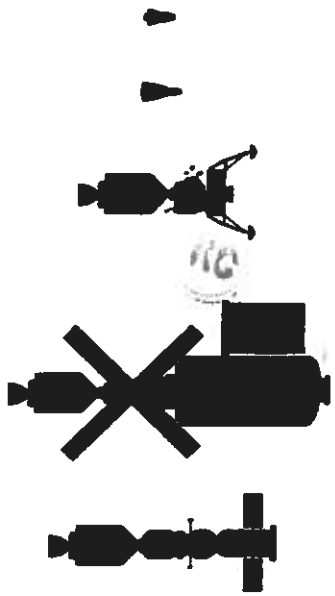

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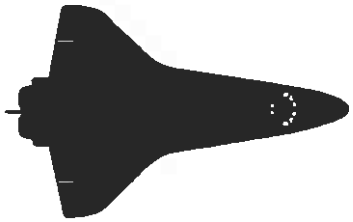

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