

Chairman's Corner *In This Issue...*

Steve Zobal
Chairman

This June *Horizons* issue wraps up the 1992-93 administrative year and my term as your Chairman. I want to take this opportunity to thank all those dedicated officers, committee members and other supporting members who helped to make this a pretty good year.

Some of the things left undone or that need to be improved upon include increasing attendance at our dinner meetings. We averaged 70 folks per meeting this year, or about 6% of the Section membership. It seems we should be able to do better than that. Papers presented at the 18th Annual Technical Symposium were down from previous years, probably because of the NASA budget uncertainties. We need to continue focusing on strengthening our technical committees. Overall, the committees performed well; some were extremely active, but a couple registered little or no activity.

I pass on these suggested areas for improvement to the capable hands of Chairperson Shirley Brandt and your new officers. I am confident that with your support they will move the Section on to new heights. It was my pleasure to serve as your Chairman.

Finally, don't forget our traditional Annual Honors and Awards Banquet on June 24. We will be honoring all the outgoing officers, committee chairpersons and all those members who have contributed their time and effort to this year's Section activities. We will also recognize the Technical Symposium session winners and present a special Section award to a local community organization for significant contributions in the promotion of the arts and sciences of aeronautics and astronautics. **■**

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Committee News

International Update

Dr. Zafar Taqvi
International Space Activities Chairman

Russian Vocabulary Seminars to Continue

After about ten very productive Lunch & Learn Russian vocabulary seminars, the group led by Jim Oberg is taking a break for a few weeks, but will soon restart regular meetings. Contact Jim Oberg at 282-4351 for more details. **■**

A Special Opportunity...

For the benefit of Houston Section members, ISAC under the International Hospitality Program is planning to give a reception for visiting Russian cosmonauts and dignitaries. It will be an opportunity for all of our members to meet these distinguished members of the aerospace family. The program will be on a space available basis.

We are working on the details. Watch for the announcement soon on the AIAA bulletin boards. **■**

Horizons is the monthly newsletter of the Houston Section of the American Institute of Aeronautics and Astronautics. It is created by members of the Houston Section and reproduced at the Houston offices of Lockheed Engineering and Sciences Company. Please address all correspondence to the Vice-Chairman of Operations, Audrey Schwartz, JSC/IA121, or to the Editor, Lou Livingston, 1911 Pepper Hill, Houston, TX 77058.

1993-94 Section Officers

The following officers and councillors have been elected for the 1993-94 Section year:

Chairperson:	Shirley Brandt	Grumman/A03-400	929-7183
Chairman-Elect:	Dr. George Nield	JSC/TM2	483-1364
Vice-Chairman, Operations:	Tek Shrini	Paramax/U08C	282-4711
Vice-Chairman, Technical:	Dudley Nelson	LESC/	333-7054
Secretary:	Michael Begley	LESC/C87	333-6996
Treasurer:	Jim Stramler	Barrios	244-8531
Councillors:	Richard Bennett	MDC-5/2196	244-4532
	Larry Guderian	MDC-1/52AE	283-1245
	Paul Judas	MDC-1/601DE	283-1212
	Michael Laible	Grumman/A03-400	929-7320
	Lou Livingston	1911 Pepper Hill Way Houston, TX 77058	480-2086
	Mallik Putcha	IBM/6606	282-7244
	Emyré B. Robinson	Barrios	280-1801
	Audrey Schwartz	JSC/IA121	483-8650
	Dr. Zafar Taqvi	LESC/C80	333-6544
	Marv White	LESC/C27	333-6161
Steve Zobal	MDC-1/215	283-1023	

Technical Symposium

Dick Bennett
Vice-Chairman, Technical

The 18th Annual Technical Symposium was held on Thursday, May 20, at the University of Houston-Clear Lake. A total of 70 papers was presented in twelve sessions throughout the day.

The Symposium was kicked off by an opening presentation from the Symposium's general chairperson, Dr. Carolyn Huntoon, Director of Space of Life Sciences at JSC. Dr. Huntoon began her remarks by paying tribute to the many women astronauts who have contributed so much to our space program. She then proceeded to the primary focus of her talk, which was to review some of the findings from the many physiological experiments which have been a regular part of most Shuttle missions, particularly

the SLS-1 mission, for which she was the principal investigator, and from the recent Spacelab mission. Many of the experiments are on-going and will be part of the upcoming SLS-2 mission. Her talk reminded the majority of us who are in the hardware and software business that we must not lose sight of the astronaut's physical and mental well-being.

Following the opening presentation, six morning and six afternoon technical sessions were held. One task of each session chair was to evaluate the presentations and decide which was to be identified as the best in the session. Most chairs reported that the decision was not an easy one. The twelve sessions and the winning presentations were:

1. Communications & Life Sciences: Radiation Exposure During the Hubble Space Telescope Revisit-1. M. J. Golightly, JSC, presenter; M. D. Weyland, Rockwell; A. C. Hardy, JSC.

(cont. on page 3)

Technical Symposium (cont.)

2. Propulsion & Ground Test: Propellant Estimation for Low Earth Orbit Vehicles. R. J. Puckett, presenter; S. C. Teplitz, MDA-SS.
3. Special Topics: Lessons Learned in Avionics System Design: The "Design to Fail" Requirement. J. P. Shannon, JSC.
4. Automation & Robotics I: EVAHR Video and Tracking and Object Pose Estimation System. R. A. Goode; J. A. Seaborn, JSC.
5. Simulations & Math Models: A Program for Calculating Molecular Column Density. C. L. Hakes, LESC.
6. Guidance, Navigation & Flight Control: Optimal Open-loop and Feedback Control of Spacecraft Using Single Gimbal Control Moment Gyros. B. R. Hoelscher, Dual, presenter; S. R. Vadali, Texas A&M.
7. Space Systems: Piloted Rovers for Early Lunar Telescience. Brand Griffin, Boeing.
8. Management: Time Management in the Manufacturing Arena. D. L. Santos, presenter; J. L. Hunsucker, University of Houston.
9. Structures & Materials: Leak-before-burst Design of Pressurized Components. A. R. Shamala, LESC.
10. Automation & Robotics II: Autonomous Grasping in Zero Gravity. K. A. Grimm, JSC.
11. Computer & Software Systems: Space Computers—Past, Present and Future. J. N. Yelverton, IBM.
12. In-Space Imaging: Photographic Analysis of the Space Shuttle Body Flaps. R. Bhaskar, LESC.

Special thanks to Dave Clark of Astro International and to Joe Borches and Bill Hammock of LESC who took the two papers we received from the Shanghai Bureau of Astronautics and "translated" them into viewgraphs and presented them at the Symposium.

The technical part of the Symposium concluded with a plenary presentation by Mr. Art Dula, President of Space Commerce Corp. Mr. Dula gave the audience a very insightful look into the current condition of the Russian space program and the method of doing business with the Russians. One of the more interesting points he made was that while the Russian approach is far less sophisticated than ours, they have a high success rate by simply using reliable systems, no matter how old they are. One of the pictures shown was that of a Russian astronaut making on-board repairs using what appeared to be a soldering iron. He concluded by stating that, in the era of restricted budgets for both countries, in his opinion much could be gained by cooperative ventures.

Following the plenary session, a brief reception was held. H

AIAA Calendar

The AIAA Calendar is intended to encompass all Houston Section events and significant dates. This includes Executive Council meetings, which are open to interested members, and *Horizons* deadlines. It will also include committee meetings, Lunch & Learns and similar events if *Horizons* hears about them in time for inclusion. Please send pertinent details either to Audrey Schwartz, JSC/IA121, or to Lou Livingston, 1911 Pepper Hill, Houston, TX 77058.

June

17 - Thursday
Executive Council meeting.
MDC Tower 1, Rm. 160, 5:00-6:15.

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

CLCTS Calendar

The CLCTS Calendar includes events of potential interest to Houston Section members. AIAA events are listed in the AIAA Calendar above.

June

1 - Tuesday

American Society for Quality Control (ASQC) Spouses Night

Tutorial: Fundamentals of Probability.

Program: Quality in Food Preparation.

Ramada King's Inn, 1301 NASA Rd. 1, 5:00/6:00/7:00.

Information: Gary Ong, 473-3231.

2 - Wednesday

CLCTS Banquet planning meeting.

Lockheed Plaza 3, 1150 Gemini, 11:45 AM.

Information: Andy Lindberg, 532-4450.

JSC Astronomy Seminar.

Open discussion.

JSC Bldg. 31, Rm. 129, 12:00 noon.

Information: Al Jackson, 333-7679.

3 - Thursday

LPI Colloquium Series.

"Compression Tectonics on Mars," Dr. Maria Zuber, Johns Hopkins.

LPI, 3600 Bay Area Blvd., Auditorium, 4:00 PM.

Information: Dr. Tomasz Stepinski, 486-2170.

7 - Monday

NASA Area Macintosh Users (Group) "NAMU."

Symantec's Gisela Salazar.

RSOC Cafeteria, 600 Gemini, 7:00 PM.

Information: 488-2262.

9 - Wednesday

JSC Astronomy Seminar.

"Liquid Metal Mirror Telescope II - Field Trip."

JSC Bldg. 31, Rm. 129, 12:00 noon.

Information: Al Jackson, 333-7679.

10 - Thursday

IEEE Galveston Bay Section.

JSC Gilruth Center, 11:30/12:00.

Information: Marcia Taylor, 483-0195.

LPI Colloquium Series.

"Composition of Martian Crust: Observations from the ISM Experiment," Dr. John Mustard, Brown University.

LPI, 3600 Bay Area Blvd., Auditorium, 1:00 PM.

Information: Dr. Tomasz Stepinski, 486-2170.

15-17 - Tuesday-Thursday

NASA/USRA University Advanced Design Program

9th Annual Summer Conference.

Sheraton Crown Hotel and Conference Center, Houston Intercontinental Airport, 9:00-5:00.

Sessions FREE.

Information: Barbara Rumbaugh, 244-2000.

15 - Tuesday

LPI Brown Bag Seminar.

"Photometry of Io," Dr. Deborah Dominique, LPI.

LPI, 3600 Bay Area Blvd., Hess Room, 12:00 noon.

Information: Dr. Tomasz Stepinski, 486-2170.

ASQC Executive Committee meeting-audit.

Boeing Bldg., 1045 Gemini.

Information: Beverly Curlice, 474-1060

16 - Wednesday

JSC Astronomy Seminar.

Open discussion.

JSC Bldg. 31, Rm. 129, 12:00 noon.

Information: Al Jackson, 333-7679.

17 - Thursday

IEEE/CLCTS Videoconference.

"Technical Currency of the Engineering Workforce."

JSC Gilruth Center, 10:00 AM-2:00 PM.

Information: Andy Lindberg, 483-1474.

18 - Friday

LPI Colloquium Series.

"The Composition and Compositional Heterogeneity of the Surface of Phobos," Dr. Scott Murchie, LPI.

LPI, 3600 Bay Area Blvd., Berkner Room, 3:00 PM.

Information: Dr. Tomasz Stepinski, 486-2170.

CLCTS Annual Awards Banquet.

Speaker: Astronaut Dan Brandenstein.

JSC Gilruth Center, 5:30/6:15/7:00.

Information: Andy Lindberg, 532-4450.

(cont. on page 5)

CLCTS Calendar (cont.)

22 - Tuesday

LPI Brown Bag Seminar.

"Impact Melt Complexities: Challenges, Debate, and Scientific Visualization," Dr. Ben Schuraytz, LPI.

LPI, 3600 Bay Area Blvd., Hess Room, 12:00 noon.

Information: Dr. Tomasz Stepinski, 486-2170.

Bay Area PC Organization (BAPCO) monthly meeting.

"Telemagic" demo, David Eckles.

League City Bank & Trust, 303 E. Main, 7:30 PM.

Information: Steve Medcalf, 554-2300.

23 - Wednesday

JSC Astronomy Seminar.

"Interstellar and Jovian Dust," H. Zook.

JSC Bldg. 31, Rm. 129, 12:00 noon.

Information: Al Jackson, 333-7679.

24 - Thursday

SCS monthly meeting.

"Where Do We Go from Here? - Virtual Reality in the Future," Tony Akin, IBM Federal Systems Division.

Lockheed Plaza 3, 1150 Gemini, PIC Room, 1st floor,
11:45 AM.

Information: Robin Kirkham, 333-7345.

AMIGA User's Group meeting.

Clear Lake Park Bldg., 5001 NASA Rd. 1, 7:00 PM.

Information: Matt Bordelon, 244-7426.

25 - Friday

LPI Colloquium Series.

"Formation and Early History of the Earth and Moon," Dr.

Michael Drake, University of Arizona.

LPI, 3600 Bay Area Blvd., Berkner Room, 3:00 PM.

Information: Dr. Tomasz Stepinski, 486-2170.

29-2 July - Tuesday-Friday

2nd Annual AIS Security Tech for Space Ops Conference, sponsored by NASA, ISSA and PACE Office of UH-CL.

Tutorials Tuesday, conference Wednesday through Friday.

South Shore Harbour Conference Center.

Registration and Information: PACE, 283-3030.

30 - Wednesday

JSC Astronomy Seminar.

Open discussion.

JSC Bldg. 31, Rm. 129, 12:00 noon.

Information: Al Jackson, 333-7679.

July

12 - Monday

NASA Area Macintosh Users (Group) "NAMU."

Spread Base by Object Software.

RSOC Cafeteria, 600 Gemini, 7:00 PM.

National Space Society monthly meeting.

Freeman Memorial Library, 16602 Diana, 7:00 PM.

Information: Marianne Dyson, 486-4747.

25 - Sunday

National Space Society Space Week event.

Meet Ms. Frizzel of The Magic School Bus and tour the CCISD's Space Bus.

Jeremy's Bookshelf, 2441 Bay Area Blvd., noon to 5:00 PM.

Information: Marianne Dyson, 486-4747.

Please send information about your meeting to:

Bill Best 283-0261

RSOC/R12A-130

or 600 Gemini, Houston, TX 77058



OUTSTANDING SECTION AWARD

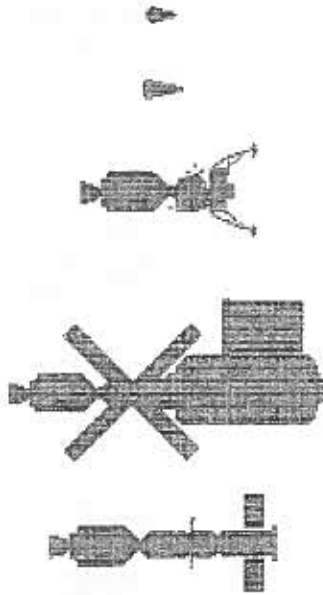


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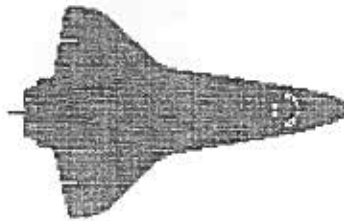
SECTION SPECIAL EVENT AWARD



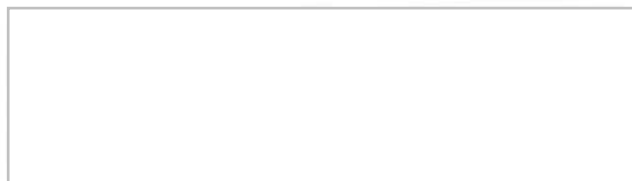
1971-1972
1972-1973
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1983-1984
1985-1986
1988-1989



AIAA Houston Section
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Webster, TX 77598



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American Institute of Aeronautics and Astronautics

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

HOUSTON SECTION ANNUAL HONORS AND AWARDS BANQUET

THURSDAY, JUNE 24, 1993

ROBERT R. GILRUTH CENTER

DINNER MEETING

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

MENU

*BAR-B-QUE BEEF/SAUSAGE/CHICKEN
POTATO SALAD/RANCH STYLE BEANS
ROLLS/BUTTER
ASSORTED DESSERTS*

MEMBERS & SPOUSES \$9.00
NONMEMBERS \$10.00
STUDENTS /YOUNG MEMBERS \$8.00

FRANKIE HAP
333-6064
LOCKHEED

ARDELL BROUSSARD
283-1040
McDONNELL DOUGLAS

KIM WUNSCH
483-1350
RSOC

SARAH LEGGIO
282-3160
BENDIX

NOTE: THE DINNER RESERVATIONS DEADLINE IS MONDAY, JUNE 21, AT 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.



You are cordially invited to attend
**CLEAR LAKE COUNCIL OF
TECHNICAL SOCIETIES'**
10th ANNUAL AWARDS BANQUET

**FRIDAY, JUNE 18, 1993
GILRUTH CENTER, NASA/JSC**

Social: 5:30-6:30 p.m. (cash bar)
Dinner: 6:30 p.m.
Program: 7:00 p.m.

Council Awards:

Technical Person of the Year
Technical Administrator of the Year
Technical Educator of the Year

Member Society Awards:

AIAA Houston Section
IEEE Galveston Bay Section
ISA Clear Lake-Galveston Section
Texas Society of Professional Engineers
Spaceweek
Clear Lake Area SIGAda
Society for Computer Simulation
American Society for Quality Control
Information System Security Association

DANIEL C. BRANDENSTEIN



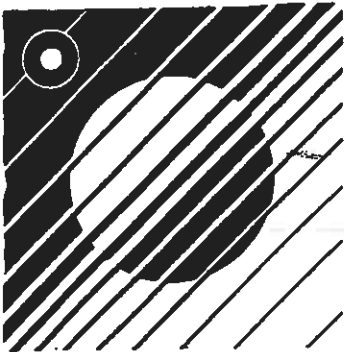
BANQUET SPEAKER

Daniel Brandenstein became an astronaut in August, 1979. He served as Chief of the Astronauts Office from 1987 until 1992. He was the pilot for Shuttle mission STS-8 and commander for missions STS-51G, STS-32 and STS-49. The latter mission was the maiden voyage of the Endeavor. During the fourth EVA of this mission the crew performed a dramatic retrieval, repair and reboost of the INTELSAT. With the completion of his flight he logged over 789 hours in space. Currently, he is the assistant to the Vice-President for Space Station Integration at IBM Federal Systems Division.

Tickets: \$15 per person

For reservations, call Marcia Taylor at 483-0195 by Monday, June 14, 1993

No shows will be billed if cancellations are not received before deadline



IEEE VIDEOCONFERENCES
SEMINARS VIA SATELLITE

Intended Audience:

- Engineers
- Technical Managers
- Designers
- Professionals
- Scientists
- Students

Supporting Documentation:

- A set of notes
- Biographies
- Bibliographies

LOCAL INFORMATION

**Location, Time, Fees,
Contact for Details**

MAINTAINING THE TECHNICAL CURRENCY OF OUR WORKFORCE

June 17, 1993 12:00 Noon-3:00 P.M. USA Eastern Time

As emerging technologies change every day, everyone is faced with the increasingly difficult task of keeping up-to-date on new information and its applications. Three experts in this area will explore the challenges of continuing education, discuss the methodology of industry leaders and provide innovative solutions and resources in this 3-hour broadcast.

Lead Presenter: Shakil Ahmed, Director, Development Staff, IBM

Presenters:

Keith M. Gardiner
Professor, Dept of Ind Engrg
Director, Ctr Mfg Sys Engrg
Lehigh University

John A. Barnshaw, III
Senior Educ Require Planner
Skill Dynamics

Agenda:

WHY - Shakil Ahmed
Technical Obsolescence
Outdated People/Skills
Real Environment

HOW - Keith M. Gardiner
Future Technology Forecast
Future Industry Forecast
Jobs of the Future

HOW - John A. Barnshaw, III
Our Suggestions
Industry/Organization Examples
University Examples
Consortium Examples

WHERE - Shakil Ahmed
Universities
Companies/Consortiums
Consultants
Books/Courses

WRAP-UP - PANEL - Measurements, Communications, Questions

Course objectives you will learn from this broadcast:

- Why technical obsolescence is occurring.
- How you can take advantage of future growth opportunities.
- What leading organizations are doing to educate employees.
- Where you can find additional resources.

Maintaining the Technical Currency of Our Workforce

As emerging technologies change every day, managers are faced with the increasingly difficult task of keeping themselves and their employees up-to-date on new information and its applications. Three experts in this area will explore the challenges of continuing education and provide innovative solutions and resources in this 3-hour broadcast.

Discussing the methodology of industry leaders and illustrating their ideas with real-life examples, the presenters will host an important information session for anyone who is faced with the issues of keeping technically current.

IEEE Videoconference

**MAINTAINING THE TECHNICAL
CURRENCY OF OUR WORKFORCE**

Presented by: **IEEE Galveston Bay Section**
Location: **Gilruth Recreation Center, NASA/JSC**
Date: **Thursday JUNE 17, 1993**
Time **Video Conference Presentation**
11:00 AM -2:00PM (Houston Time)

Refreshments, parking, and lecture materials are included with the registration. For additional information, please call:

Site Questions	Dr. Zafar Taqvi	333-6544
Registration	Frankie Hap	333-6064
Arrangements	Andy Lindberg	532-4450

Coordinated by: **IEEE Education Committee, Galveston Bay Section**
Dr. Zafar Taqvi, Chairman

Register Now!! Attendance Is Limited!!!

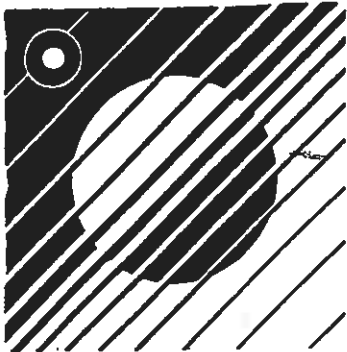
Fees:	IEEE Members	\$ 50
	Student Members	\$ 15

(Please, no refunds or cancellations after Thursday, June 10, 1993)

Make checks payable to CLCTS and mail check and registration form to:
CLCTS c/o Frankie Hap
Lockheed-ESC; Mailcode C87
2400 NASA RD 1
Houston, Texas 77058

Registration Deadline Is Thursday June 10, 1993. Please return this portion to the address above with payment to attend the IEEE Videoconference "Maintaining the Technical Currency of Our Workforce"

Name _____
Company _____
Mailstop _____ Work/Day Phone _____
Address _____
City _____ State _____ Zip _____
(Circle) IEEE ISA AIAA ACM Student None
Membership Number _____



IEEE VIDEOCONFERENCES
SEMINARS VIA SATELLITE

Intended Audience:

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- Technical Managers
- Designers
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Our Suggestions
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University Examples
Consortium Examples

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Companies/Consortiums
Consultants
Books/Courses

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Coordinated by: **IEEE Education Committee, Galveston Bay Section**
Dr. Zafar Taqvi, Chairman

Register Now!! Attendance Is Limited!!!

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	Student Members	\$ 15

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Lockheed-ESC; Mailcode C87
2400 NASA RD 1
Houston, Texas 77058

Registration Deadline Is Thursday June 10, 1993. Please return this portion
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"Maintaining the Technical Currency of Our Workforce"

Name _____
Company _____
Mailstop _____ Work/Day Phone _____
Address _____
City _____ State _____ Zip _____
(Circle) IEEE ISA AIAA ACM Student None
Membership Number _____



Call for Papers



AIAA/NASA Conference on Intelligent Robots In Field, Factory, Service, and Space (CIRFFSS '94)

March 21-24, 1994
Houston, TX

"SHARING TECHNOLOGY IN THE NATIONAL INTEREST"

The AIAA/NASA Conference on Intelligent Robots for Field, Factory, Service, and Space is a major national event in intelligent robotics. It provides a unique forum for engineers and scientists from industry, government, academia, and from a wide range of development and user environments, to exchange knowledge of the state of the art, unfulfilled requirements, and current research directions. The conference goals are a) to develop a shared technology base among researchers, developers and users of intelligent robots; b) to understand the commonality and the differences among the requirements for applications in the different environments of field, factory, service, and space, and c) to increase the efficiency and synergy of ongoing efforts. Papers are invited that cover all aspects of the development, and use of intelligent robots.

CIRFFSS '94 is organized in cooperation with the American Association for Artificial Intelligence, IEEE Robotics and Automation Society, National Service Robot Association, Robotic Industries Association, Society for Photo-Instrumentation Engineering, AIAA Space Automation and Robotics Technical Committee, Clear Lake Council of Technical Societies, AIAA Houston Section, and the IEEE Galveston Bay Section.

TECHNOLOGY TRACKS:

Papers are solicited that describe the technology of building intelligent robotic systems, especially surveys of the state of the art, subsystem concepts, experimental results in different environments, system and subsystem metrics, and comparison of different approaches.

- *Robotics Sensing, Vision, and Perception*--visible, radar, sonar, IR and laser sensors, innovative systems; and perception algorithms, architecture, and integration methods.
- *Planning, Reasoning, and Control*--behavioral and subsumption methods, deliberative planners, reasoning architectures, combination and mediation of planning, and reasoning and control elements
- *Systems Technology and Architectures*--methods for allocating functions, system and software architectures, and approaches to modularity and reuse

The use of videotapes is encouraged in all areas.

An abstract of approximately 1000 words should be prepared in accordance with the AIAA Abstract Submittal Form. Five copies of an abstract should be submitted before July 19, 1993. Authors will be notified of paper acceptance by September 15, 1993, and manuscripts will be due by December 1, 1993. Proceedings will be available at the conference. Please indicate the appropriate track, if known.

Abstracts should be submitted to:

Program Chairman:
Dr. Lawrence P. Seidman
The MITRE Corporation
1120 NASA Road 1
Houston, TX 77058-3320
Telephone: 713/335-8532
Fax: 713/333-5147
Email: lseidman@mitre.org

APPLICATION TRACKS:

Papers are solicited that describe designs and uses of intelligent robots, especially those related to concepts, design experiments, operational experience, and requirements.

- *Factory*--assembly, transport, inspection, warehousing, and manufacturing
- *Field*--underwater, explosive handling, hazardous environments, military applications, autonomous land vehicles, construction, very cold environments, mining, drilling
- *Space*--on-orbit servicing and assembly, planetary exploration and operations, spacecraft inspection, ground-based operations
- *Service*--health care, security systems, cleaning systems, residential/office, facility maintenance

Address all other conference enquiries to:

Conference Chairman:
Dr. Jon D. Erickson
Lyndon B. Johnson Space Center (NASA)
2101 NASA Road 1
Houston, TX 77058
Telephone: 713/483-1508
Fax: 713/483-7580
Email: erickson@aio.jsc.nasa.gov

CIRFFSS '94 Organization

General Chairperson: Paul J. Weitz, Deputy Director, Lyndon B. Johnson Space Center, NASA, Houston, Tx
Conference Chairperson: Dr. Jon D. Erickson, Chief Scientist, Automation and Robotics Division, Lyndon B. Johnson Space Center, National Aeronautics and Space Administration, Houston, TX
Technical Program Chairperson: Dr. Lawrence P. Seidman, MITRE Corp., Houston, TX
Administrative Committee Chairperson: Dr. Zafar Taqvi, Lockheed Engineering and Sciences Co., Houston, TX

Conference Steering Committee

Jon D. Erickson, NASA/Johnson Space Center
Lawrence P. Seidman, MITRE Corp.
J. Peter Bonasso, MITRE Corp.
Jeffrey Burnstein, National Service Robot Association
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John Holland, Cybermotion
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Harvey Meieran, PHD Technologies
Hatem Nasr, Honeywell
Joe Parrish, NASA, Headquarters
Art Sanderson, Rensselaer Polytechnical Institute
Zafar Taqvi, Lockheed Engineering & Sciences
Del Tesar, University of Texas at Austin
Richard Volz, Texas A&M University

Conference Technical Program Committee

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Ray Harrigan, Sandia National Lab
Bill Hamel, Oak Ridge National Lab
Butler Hine, Arnes Research Center
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Steven W. Holland, General Motors
David Hunter, Canadian Space Agency
Jim Karlen, Robotics Research
Mike Kearney, McDonnell Douglas Corp.
Michael Leahy, Kelly Air Force Base

Pat Mattaboni, Cyberotics
Harvey Meieran, PHD Technologies
Jay Mendelson, Grumman Corp.
Hatem Nasr, Honeywell
Robert Palmquist, Sandia National Lab
Joe Parrish, NASA, Headquarters
Harry Roman, Public Service Electric and Gas
Art Sanderson, Rensselaer Polytechnical Institute
Bob Savely, NASA/Johnson Space Center
Del Tesar, University of Texas at Austin
Dick Theobald, Lockheed Engineering & Sciences
Richard Volz, Texas A&M University
Carl Weiman, Transitions Research
Charles Wu, Ford Motor Co.

Conference Location

The AIAA/NASA Conference on Intelligent Robots in Field, Factory, Service, and Space (CIRFFSS '94) will be held from March 21 through March 24, 1994, at the South Shore Harbour Resort and Conference Center, League City, Texas, located 25 miles south of downtown Houston and conveniently located about 15 miles south of Hobby Airport.

Area Attractions

Space Center Houston is the new visitors center at the NASA, Johnson Space Center, which opened in the Fall of 1992. Designed by Disney Engineering, this center has an IMAX Theater and hands-on interactive exhibits and displays. Includes tours of JSC Mission Control and development and training facilities. Admission is \$8.75.

Galveston Island is a nearby resort area having many interesting attractions. Special commercial day excursions are available which includes a tour of Gulf Coast Island City and some of the historical landmarks.

Gulf Greyhound Park is a few miles south of South Shore Harbour and is the biggest crowd-drawing dog racing track in the United States. It does not cost much to have a lot of fun. Admission is \$1.00.

Galleria, Houston's most glamorous mall, located in the southwest of Houston, is always a key attraction for our visitors. Key anchor stores are complemented by hundreds of specialty shops and restaurants. For those interested in extracurricular activities, the mall houses an indoor ice rink where skates can be rented for a small charge.



Call for Papers



AIAA/NASA Conference on Intelligent Robots In Field, Factory, Service, and Space (CIRFFSS '94)

March 21-24, 1994
Houston, TX

"SHARING TECHNOLOGY IN THE NATIONAL INTEREST"

The AIAA/NASA Conference on Intelligent Robots for Field, Factory, Service, and Space is a major national event in intelligent robotics. It provides a unique forum for engineers and scientists from industry, government, academia, and from a wide range of development and user environments, to exchange knowledge of the state of the art, unfulfilled requirements, and current research directions. The conference goals are a) to develop a shared technology base among researchers, developers and users of intelligent robots; b) to understand the commonality and the differences among the requirements for applications in the different environments of field, factory, service, and space, and c) to increase the efficiency and synergy of ongoing efforts. Papers are invited that cover all aspects of the development, and use of intelligent robots.

CIRFFSS '94 is organized in cooperation with the American Association for Artificial Intelligence, IEEE Robotics and Automation Society, National Service Robot Association, Robotic Industries Association, Society for Photo-Instrumentation Engineering, AIAA Space Automation and Robotics Technical Committee, Clear Lake Council of Technical Societies, AIAA Houston Section, and the IEEE Galveston Bay Section.

TECHNOLOGY TRACKS:

Papers are solicited that describe the technology of building intelligent robotic systems, especially surveys of the state of the art, subsystem concepts, experimental results in different environments, system and subsystem metrics, and comparison of different approaches.

- *Robotic/Sensing, Vision, and Perception*--visible, radar, sonar, IR and laser sensors, innovative systems; and perception algorithms, architecture, and integration methods.
- *Planning, Reasoning, and Control*--behavioral and subsumption methods, deliberative planners, reasoning architectures, combination and mediation of planning, and reasoning and control elements
- *Systems Technology and Architectures*--methods for allocating functions, system and software architectures, and approaches to modularity and reuse

The use of videotapes is encouraged in all areas.

An abstract of approximately 1000 words should be prepared in accordance with the AIAA Abstract Submittal Form. Five copies of an abstract should be submitted before July 19, 1993. Authors will be notified of paper acceptance by September 15, 1993, and manuscripts will be due by December 1, 1993. Proceedings will be available at the conference. Please indicate the appropriate track, if known.

Abstracts should be submitted to:

Program Chairman:
Dr. Lawrence P. Seidman
The MITRE Corporation
1120 NASA Road 1
Houston, TX 77058-3320
Telephone: 713/335-8532
Fax: 713/333-5147
Email: lseidman@mitre.org

APPLICATION TRACKS:

Papers are solicited that describe designs and uses of intelligent robots, especially those related to concepts, design experiments, operational experience, and requirements.

- *Factory*--assembly, transport, inspection, warehousing, and manufacturing
- *Field*--underwater, explosive handling, hazardous environments, military applications, autonomous land vehicles, construction, very cold environments, mining, drilling
- *Space*--on-orbit servicing and assembly, planetary exploration and operations, spacecraft inspection, ground-based operations
- *Service*--health care, security systems, cleaning systems, residential/office, facility maintenance

Address all other conference enquiries to:

Conference Chairman:
Dr. Jon D. Erickson
Lyndon B. Johnson Space Center (NASA)
2101 NASA Road 1
Houston, TX 77058
Telephone: 713/483-1508
Fax: 713/483-7580
Email: erickson@aio.jsc.nasa.gov

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Abstract Submittal Form

I wish to submit an abstract for (conference/meeting) CIRFFSS '94

Location: Houston, Texas

Date: March 21-24, 1994

Reminders:

- 1/ AIAA has first publication rights to all papers presented at its meetings.
- 2/ All nonmember program participants and authors will be charged the nonmember registration fee for the meeting; any member program participants and authors are eligible for the member fee.
- 3/ Authors of accepted papers will be expected to submit a photo-ready manuscript. Deadline dates will be included in author kit packages. Authors designing journal publication should send five (5) copies of their photo-ready manuscript directly to the Editor-in-Chief of the Journal of their choice (see inside front cover of each journal for correct address), along with a covering letter, before the meeting, if they wish to accelerate the review procedure. Government Program Monitors/Security Officers should be alerted as soon as authors receive formal acceptance of their paper.
- 4/ It is the responsibility of authors to obtain proper approval if necessary. Please keep in mind that clearances may consume six (6) weeks or more.
- 5/ Co-authors are grouped by affiliations and do not necessarily reflect amount of author contribution.

Paper title (this title will be published in the program):

Author/s' name and title, AIAA membership grade, company, full mailing address, telephone number, FAX number:

1 Principal Author

2

3

4

Indicate (one) author to receive all correspondence:

1

2

3

4

Abstract due date:

Draft of paper included?

Will 2/2-in. VCR player and monitor be required for your presentation?: Yes No

Similar results previously presented or published elsewhere? Yes No

Concise statement of problem (its genesis and objective):

Scope and methods of approach, with statement of contribution to the state-of-the-art or an application of existing analytical techniques and theories to a problem

Summary of important conclusions:

Statement of data used to substantiate conclusions, and freehand sketches of major figures to be used (no more than two typed pages):



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