


## Chairman's Corner

**Shirley Brandt**  
Chairman

THE VARIETY OF ACTIVITIES which are sponsored by our local AIAA section are chosen to fulfill the perceived needs and desires of the members. Since the requirements of our members are dynamic and subject to change as a function of the state of the aerospace industry, communication between the membership and the volunteers who plan the section functions is essential. It is imperative that all members have input into the section programming.

Many of our members who are in job transition have been questioning the cost effectiveness of renewing their membership in AIAA. The size of our local section has been reduced during the last months. Some of the reduction is due to people dropping their affiliation with AIAA. This is a shortcoming of our local section for failing to reach all of our members. We need to know what each member wants from our section.

The section is in need of more volunteers to help with all the programs which are being planned currently. A second employment workshop is being organized. However, a large percentage of the planning team is non AIAA members. Since the workshop is to be an AIAA function, it would be preferable to have more AIAA members involved. The dates for the workshop have not been finalized, and are contingent on getting more volunteer participation from the AIAA membership. In addition, volunteers are needed to work on the Technical Symposium committee.

Share your ideas for innovative section activities; participate in the operation of the local section; communicate your needs. 

### NOTE:

The April dinner meeting will be held at the Gilruth Center in the *upstairs* meeting room at the back of the building, not in the ballroom.

## In This Issue...

Chairman's Corner .....	1
Section Elections .....	2
Committee News .....	2
Been There, Done That ... 25 Years Ago .....	3
Coming Events .....	4
Reviews .....	5
AIAA Calendar .....	6

*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, Tek Shrini, U08C, or to the Editor, Lou Livingston, 1911 Pepper Hill, Houston, TX 77058.

## Section Elections

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**George Nield**  
**Chairman-Elect**

THE NOMINATING COMMITTEE has come up with a list of nominees for next year's officers and council members. All are members of the Section and have been contacted and agreed to run. Nominating Committee members included George Nield (Committee Chairman), Steve Hawley, André Sylvester, Suzan Voss and Paul Judas. In accordance with the Bylaws, additional nominations may be made by petition to the Secretary, stating the name of the nominee and signed by at least a membership quorum (currently 53 members). Nominations should be submitted to

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

and must be received not later than May 1, 1994.

The following nominees have been selected by the Nominating Committee and will appear on the May 1994 ballot:

**Chairman-Elect:**

- Don Probe/Lockheed

**Vice-Chairman, Technical:**

- Kamlesh Lulla/NASA
- Jayant Ramakrishnan/Dynacs

**Vice-Chairman, Operations:**

- Mike Begley/Lockheed
- Mac Parks/Lockheed

**Secretary:**

- Merri Sanchez/NASA
- Susan Vascoe/S. K. Cisneros

**Treasurer:**

- Franklin Chang-Diaz/NASA
- Jeff Siders/RSOC

**Council (4 positions open):**

- Dave Criswell/University of Houston-Clear Lake
- Carl Huss/retired
- Joe Loftus/NASA
- Tom Mulder/McDonnell Douglas
- Dudley Nelson/Lockheed
- Jim Oberg/RSOC
- Clay Shadeck/Martin Marietta
- Steve Scheer/Lockheed

Elected in May 1993:

**Chairman:**

- George Nield/NASA

**Council:**

- Dick Bennett/Friendswood School District
- Paul Judas/GB Tech
- Lou Livingston/retired
- Emyré Robinson/retired
- Audrey Schwartz/NASA
- Marv White/retired
- Shirley Brandt/Grumman (Past Chairman) **⚡**

## Committee News

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### Spirit of Apollo Scholarship Program

**George Nield**  
**Chairman-Elect**

APPLICATIONS ARE NOW AVAILABLE for the Spirit of Apollo scholarship program, which provides a \$1,000 scholarship for a student in a field of engineering or science pertinent to AIAA technical activities. Criteria for the scholarship award and a copy of the application form were included in the March 1994 issue of *Horizons*.

If you have any questions on the scholarship program, please contact George Nield at 483-1364. **⚡**

## *Been There, Done That ... 25 Years Ago*

David S. F. Portree  
History/Heritage Committee

IN APRIL 1969, THE JOYS OF SPRINGTIME and the impending manned lunar landing of Apollo 11 put some at the Manned Spacecraft Center in a poetical frame of mind. Meanwhile, NASA continued its efforts to gain funding for a post-Apollo role.

### Space

by John H. Boynton, Apollo Test Division

As man would venture from this earth  
And traverse 'cross vast space  
He carries hopes of noble worth  
To free our human race.

Technology's the key to peace,  
A quiet power gained  
The great unknown will never cease  
So must we search the brain.

Friendship to share, one peaceful race  
Who breathes an air that's cleand  
When we build craft to venture space,  
It's good life here we glean.  
(excerpted, *Space News Roundup*, April 4, 1969)

**Large Space Station Proposed by Mueller**  
A large U. S. space station could be built 200-300 miles above the Earth by assembling prefabricated modules launched separately into orbit. The concept for the mid-1970s was described to a congressional committee recently by Dr. George A. Mueller, NASA Associate Administrator for Manned Space Flight.

Types of modules now under consideration include: crew quarters, wardroom, systems module, docking and cargo handling module, laboratory modules, maintenance module consisting of machine shops, [and a] storage module. It could provide ... either "Zero g" or artificial gravity modes for experiments.

The space complex is planned for 10 years of continuous operation. The crew would be rotated at 3-6 month intervals and new experiment packages and modules brought up as they became available. The station would be initially sized for a crew of 12 and 10,000 cubic feet of useable space. Electric power would come from solar panels or a small nuclear generator.

Men and materials would be ferried ... by reuseable shuttles that would be launched vertically, shed their fuel tanks in flight, and land horizontally at airports.  
(excerpted, *Space News Roundup*, April 4, 1969) **H**

The only people that enjoyed the February meeting were the ones who attended. Give yourself a treat and come to the April meeting. If you're temporarily unemployed (there's a lot of that going around), dinner is only \$5, compliments of the Houston Section.

Photo by Jim McLane



## Coming Events

### **Fuzzy Information Conference Call for Papers**

AN INTERNATIONAL JOINT CONFERENCE in San Antonio December 18-21 will combine the North American Fuzzy Information Processing Society (NAFIPS) Biannual Conference, the Industrial Fuzzy Control and Intelligent Systems (IFIS) Conference, and the NASA Joint Technology Workshop on Neural Networks and Fuzzy Logic. The theme of the conference will be Application of Fuzzy Logic in Complex Systems.

Topics of interest include:

- Fuzzy Control
- Fuzzy Databases and Information Retrieval
- Fuzzy Decision-making and Optimization
- Fuzzy Expert Systems
- Fuzzy Mathematics
- Fuzzy Neurosystems
- Fuzzy Modeling and Identification
- Adaptive Fuzzy Systems
- Evolutionary Competition
- Fuzzy Logic and Artificial Intelligence
- Fuzzy Pattern Recognition

Papers of interest include theoretical research and applications in the following areas:

- Manufacturing
- Transportation
- Energy
- Health Care Systems
- Environment
- Biomedical Systems
- Information Processing

Authors must submit six (6) copies of their complete papers (not to exceed 2000 words) to either of the two program chairs:

Professor Lawrence Hall  
Dept. of Computer Science and Engineering,  
ENB 118  
4202 E. Fowler Ave.  
University of South Florida  
Tampa, FL 33620  
Phone: 813 / 974-4195  
Fax: 813 / 974-5456  
E-mail: hall@csee.usf.edu

Professor Hao Ying  
Dept. of Physiology and Biophysics  
University of Texas Medical Branch  
Galveston, TX 77555-0123  
Phone: 409 / 772-8415  
Fax: 409 / 772-6424  
E-mail: hying@beach.utmb.edu

Accepted papers will be allocated six (6) pages in the conference proceedings. The program committee will also select high quality papers submitted for possible publication in special issues of the International Journal of Approximate Reasoning (IJAR) and the International Journal of Intelligent and Fuzzy Systems (IFS).

Extended abstracts are due May 15, 1994. Authors will be notified July 7, and final manuscripts are due September 15.

For further information, contact:

Uthra Venkatraman  
Center for Fuzzy Logic and Intelligent Systems  
Research  
Texas A&M University  
College Station, TX 77843-3112  
Phone: 409 / 845-1870  
Fax: 409 / 847-8578  
E-mail: nafips94@cs.tamu.edu



## Reviews

### Conference On Intelligent Robots in Field, Factory, Service, and Space (CIRFFSS '94)

Jed Login

[*Horizons* not only welcomes but encourages items for publication from members and non-members. We ask only that the subject matter be pertinent to the interests of the Houston Section and/or its members. Please avoid partisan politics, and please don't try to sell something (if it's an advertisement, we expect to get paid for it). Needless to say, the author's views are his own; the Houston Section neither approves nor disapproves his comments. - Editor]


AIAA AND NASA/JSC HAVE JUST COMPLETED an exciting conference on March 21-24 at the South Shore Harbour Conference Center. More than a dozen other societies and a half dozen corporations sponsored CIRFFSS '94. Over 200 registered participants from all over the world convened to share and discuss robotics technology and knowledge. After the Monday morning opening, the conference organized along four tracks: Field, Factory, Service, and Space. This provided participants an opportunity to focus their interests. Breaks, luncheons, and banquets afforded opportunities for networking and further sharing of information.

Paul Weitz, the General Chair, presented the Conference theme, "Sharing Technology in the National Interest," which responds to President Clinton's initiative to use government/private industry partnerships, consortia, and collaborations. JSC wants to work with industry to use intelligent space robotics technology in commercial applications on earth. Mr. Weitz cited the following interesting examples. Baylor School of Medicine students explore the human

body utilizing virtual reality technology developed to train astronauts for Hubble. Dexterous end effector technology developed for space is applied to artificial hands.

Ms. Kelly Karnes is the Deputy Assistant Secretary from the Office of Technology Policy under the Department of Commerce. She framed the conference issues for discussion in economic and political terms. The new administration's belief is that government should facilitate technological change rather than rely upon laboratory breakthroughs as done in the past. Private industry will share defense industry lab facilities, benefit from advanced technology programs, and join efforts with government. Government will share long term research costs while industry sets the agenda.

NASA Conference Publication 3251 includes the text of the presentations in two volumes.

I felt the conference was beneficial because I learned how and where to get additional information, made meaningful contacts, discovered new robotics technologies, and new applications of existing technologies. More than three quarters of the participants were from outside the space industry. This diverse conference participation created a melting pot for lateral transfers of robotic applications between the four theme tracks. South Shore Harbour was an excellent host and a very convenient location, especially for local members. The level of space robotics activity around the world indicates that it is an important technology and will continue to grow. 



## 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.

### April

#### 21 - Thursday

Monthly Executive Board meeting.  
5:15-6:30 PM.

#### 25 - Monday

*Horizons* inputs for May due COB.

#### 28 - Thursday

Monthly dinner meeting.  
"Information Superhighway: Southwestern Bell's Role," Wayne Alexander, Regional Vice-President, SW Bell Telephone.  
JSC Gilruth Center (upstairs), 5:30/6:30/7:30.

### May

#### 19 - Thursday

19th Annual Technical Symposium: "Uniting the World Through Aerospace".  
Bayou Bldg., UHCL

Monthly Executive Board meeting.  
5:15-6:30 PM.

#### 31 - Tuesday

*Horizons* inputs for June due COB.

### June

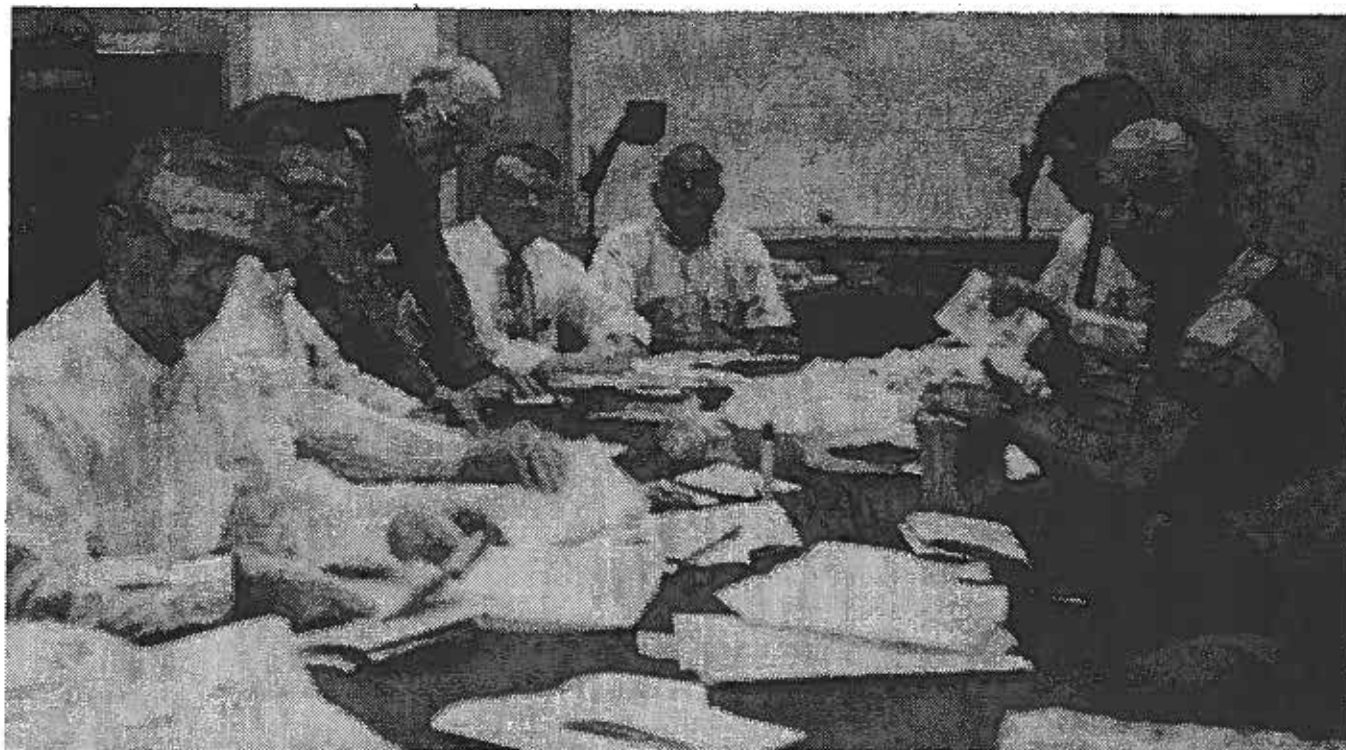
#### 23 - Thursday

Monthly Executive Board meeting.  
5:15-6:30 PM.

#### 30 - Thursday

Monthly dinner meeting.  
Annual Honors & Awards Banquet.  
JSC Gilruth Center, 5:30/6:30/7:30.

4



Steve Zobal, Bill Geissler, Jim McLane, John Trebes, Tek Shrini, George Nield and Bill Best folding and addressing copies of *Horizons* at a recent mailing session. Many hands make light work; if you'd like to help, call mail chairman Bill Best at 282-6970.

Photo by Jim McLane

## OUTSTANDING SECTION AWARD

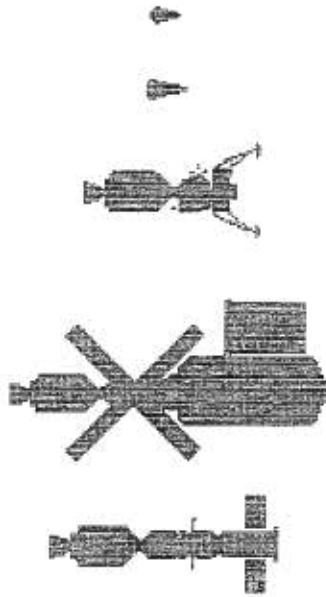


1975-1976  
1976-1977  
1979-1980  
1980-1981  
1981-1982  
1983-1984  
1986-1987  
1988-1989

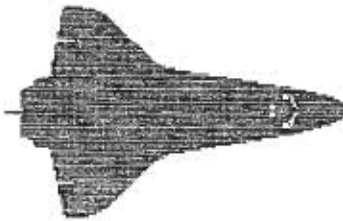
## SECTION SPECIAL EVENT AWARD



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



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



**Non-Profit Organization  
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SHIRLEY BRANDT  
CHAIRMAN 1993-94

# American Institute of Aeronautics and Astronautics

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

**Thursday, April 28, 1994**

## INFORMATION SUPER HIGHWAY: SOUTHWESTERN BELL'S ROLE

**WAYNE S. ALEXANDER**  
Vice-President,  
Southwestern Bell Telephone



### PRESENTER

Wayne S. Alexander is Vice-President of Southwestern Bell Telephone Co. in Houston. He is responsible for all customer services for both residential and business customers, as well as installation and maintenance, engineering and construction, network operations and special services. A native of St. Louis, Mr. Alexander graduated from the U. of Missouri with both a bachelor's degree in mechanical engineering and a master's degree in engineering management. Presently, he is chairman of the Mexico Task Force for the Greater Houston Partnership, where he also serves on the Executive Committee and the Board of Directors. He was appointed by Governor Ann Richards to the Texas Aerospace Commission, where he is now serving as chairman. He is a member of the Board of Trustees of the United Way of the Texas Gulf Coast and the Executive Boards of the Houston Business Council and the Sam Houston Area of the Boy Scouts of America. Mr. Alexander also serves as a member of the Houston Regional Advisory Board for Texas Commerce Bank and on the boards of directors for Central Houston and Private Sector initiatives. He is also on the Board of Governors and Executive Committee of The Houston Forum.

### EXECUTIVE HOST

**Alan S. (Bud) MacKenzie**  
Vice-President / Program Manager  
Grumman Technical Services  
Information Systems Contract

### DINNER MEETING

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

### MENU: SWISS STEAK

**ROBERT R. GILRUTH RECREATION CENTER  
JOHNSON SPACE CENTER**

MEMBERS & SPOUSES	\$ 9.50
NONMEMBERS	\$10.00
STUDENTS/YOUNG MEMBERS	\$ 5.00
UNEMPLOYED MEMBERS	\$ 5.00

FRANKIE HAP  
333-6064  
LOCKHEED

ARDELL BROUSSARD  
283-1040  
McDONNELL DOUGLAS

MARY ANN BIVONA  
483-1350  
RSOC

SARAH LEGGIO  
282-3160  
ALLIEDSIGNAL

CALL ONE OF THE ABOVE FOR RESERVATIONS.

NOTE: RESERVATION DEADLINE IS MONDAY, APRIL 25, AT 12:00 NOON.  
ANY CANCELLATIONS ARE REQUIRED PRIOR TO DEADLINE. NO-SHOWS WILL BE BILLED.

ALL ARE WELCOME

DINNER RESERVATIONS ARE NOT REQUIRED FOR ATTENDING THE PROGRAM ONLY.



**AUTOMATION AND ROBOTICS TECHNICAL COMMITTEE OF  
AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS  
HOUSTON SECTION  
AND  
AUTOMATION AND ROBOTICS DIVISION, NASA/JSC  
PRESENT**

# **WAR '94**

**A 1-day TUTORIAL WORKSHOP ON AUTOMATION AND ROBOTICS  
GILRUTH RECREATION CENTER, NASA/JSC  
Thursday, APRIL 21, 1994, 8:30 AM- 12:30 PM**

**THEME: NEW TECHNOLOGIES IN A&R**

8:00-8:30 AM	Registration
8:30-9:30 AM	<b>Tutorial: Fuzzy Logic in Automation</b> Dr. Jack Aldridge, AdvanTex Inc.
9:30-10:30 AM	<b>Tutorial: Study on Common Sense</b> University of Texas
10:30-11:30 AM	<b>Tutorial: Wavelets</b> Dr. Ronnie Wells, Rice University
11:30 AM	<b>Luncheon (Reservation needed)</b> <b>Parallel Computer Architecture for Advanced Mobile Robotics</b> Dr. Rodney Brooks, MIT

**THE WORKSHOP IS FREE but the Reservation IS MANDATORY.  
Luncheon cost \$8 (Students and unemployed members \$7)  
Deadline is Monday April 18th Noon  
SEATS ARE LIMITED, FIRST-COME-FIRST SERVE**

**Cosponsored by:  
ISA Clear Lake Section**

**Further details will be forthcoming  
For registration and reservation contact:  
Mary Stewart/ER3, call at 483-1724 or FAX enquiry at 483-7580**

FILL OUT THE FORM AND MAIL TO MARY STEWART

-----  
**REGISTRATION FORM**

Name.....Company Affiliation .....

Address.....Telephone.....

Membership      AIAA.....    IEEE.....    ISA.....    Any other.....

Luncheon reservation    yes / No      Number of tickets .....Check enclosed.....

**NO REFUNDS AFTER THE DEADLINE OF APRIL 18TH. NO SHOWS WILL BE BILLED**



# Quality Issues for Engineers: Putting Theory Into Practice

Presented by Jeffrey M. Nugent,  
Joe Bernabeu, David B. Luther

Wednesday,  
April 13, 1994

9 am - 12 pm Pacific -  
10 am - 1 pm Mountain -  
12 noon - 3:00 pm  
Eastern Time

**A Must See For:**  
Engineers •  
Scientists •  
Technical Managers •  
Academics •  
Military Personnel •  
Students •



IEEE PRESENTS A 1994 VIDEOCONFERENCE

The focus of this program will be to help engineers understand and use the quality revolution in their jobs — both in what they do and how they do it. See how breakthrough thinking and common sense approaches can truly make a difference in an engineering environment. Topics include basic quality tool, the concept of key business processes and how to re-engineer those processes. Understand the engineer's role in achieving customer satisfaction from defining customers and their needs, to getting the right products to market through improved design and manufacture. This program will also address where the quality revolution is going from here. If you've heard enough about quality, this program will help you put that knowledge to work for its ultimate purpose - to deliver better, faster, improved products and more loyal customers.

### Benefits

**From this course you will learn...**

1. A basic understanding of TQM/Competitiveness disciplines.
2. How the engineers role can contribute to the overall success of their organization.
3. To understand the jargon of TQM in order to accomplish what is intended.

### Lead Presenter:

**Jeffrey M. Nugent, Corporate Vice President, Worldwide Quality Management, Johnson & Johnson**

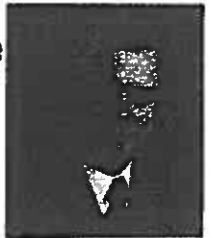
Mr. Nugent is responsible for overseeing the continuous improvement of the corporation's products and services delivered by over 165 operating companies in nearly 60 countries. He has held the positions of Chief Financial Officer in one of J&J's operating companies, Director of R&D, Director of Strategic Planning, Director of Business Development, Director of Marketing, and Vice President of Operations of a service based J&J affiliate.



### Presenters:

**Joseph Bernabeu, Executive Director Quality Management, Johnson & Johnson Quality Institute**

Mr. Bernabeu joined the J&J Quality Institute in 1990 with worldwide responsibility for the Business Process Re-engineering (BPR) consultancy. The BPR philosophy has now influenced all of the strategic initiatives of the corporation and is the major enabler of J&J's enhanced competitiveness activities.



**David B. Luther, Vice President and Corporate Director, Corning Incorporated**

Mr. Luther served four terms as a judge for the Malcolm Baldrige National Quality Award and is co-founder of the Conference Board Quality Control. He is president-elect of the American Society of Quality Control.



Mr. Luther served in several positions in Corning, including Director of Personnel Resources, Assistant Controller of the Corporation, Director of Information Resources, Director of Corporate Planning, Vice President of Personnel and Productivity, leading to his election to his current position in 1985.

IEEE Videoconference  
**Quality Issues for  
Engineers:  
Putting Theory Into Practice**

Presented by: IEEE Galveston Bay Section  
Location: Gilruth Recreation Center, NASA/JSC  
Date: Wednesday April 13, 1994  
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!!!**

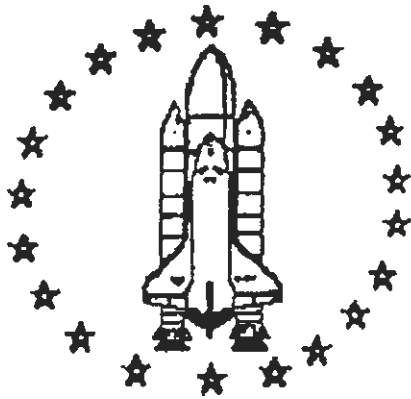
Fees:	IEEE Members	\$ 50
	Student Members	\$ 15

(Please, no refunds or cancellations after Friday NOON , April 8, 1994)

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

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**Registration Deadline Is Friday April 8, 1993. Please return this portion to the address above with payment to attend the IEEE Videoconference "Quality Issues for Engineers: Putting Theory Into Practice"**

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



AIAA



FLUID DYNAMICS  
TECHNICAL COMMITTEE

American Institute of Aeronautics and  
Astronautics - Houston Section

TECHNICAL MEETING

- SPEAKER:** Dr. Christopher J. Maticc  
Stress Engineering Services, Inc.  
Houston
- SUBJECT:** Survey of General Purpose Commercial CFD  
Programs
- DATE:** Monday, April 25, 1994  
5 PM until 6 PM  
Conference Room, Room # E421  
Engineering Building (Dean's Office)  
University of Houston

ALL ARE WELCOME - OPEN TO THE PUBLIC

For Information, Contact: Dr. Chris Maticc, 955-2900  
or Dr. R. Bhargava, 983-0057