

## Correction

### U of H Spring Courses

**Lou Livingston**  
Editor

The December 1993 *Horizons* listed several courses to be taught at the University of Houston-Clear Lake (UHCL) and, via television, on site at JSC this spring. The article implied that these were UHCL courses; however, this is not the case. According to Charles Dalton, Associate Dean of the Cullen College of Engineering at the University of Houston, "These courses are not UHCL courses; the courses are from the University of Houston (main campus) and are taught by faculty from that campus. For the convenience of the NASA/contractors community, the University of Houston (main campus) offers the first group of these classes live at the UHCL campus. The second group of classes (on ITV) is available to Clear Lake area graduate students in classrooms in Bldg. 45 at NASA/JSC."

*Horizons* regrets this error and apologizes for any confusion it may have caused.

### Committee News

#### Temporary Aggie From Our Sister Section Presents Lunch & Learn

**Jim McLane**  
Sister Section Coordinator - China

Mr. Lei Shuliang (Shuliang Lei in our western convention) arrived at Texas A&M University last May for a year of research as a Visiting Scholar under the direction of Professor John Junkins in the Aerospace Engineering Department. Gillian Parker of the Houston Section Materials, Structures & Dynamics Technical Committee arranged for Mr. Lei to lecture on the results of his research to date at a Lunch & Learn session of the Committee on December 8.

His lecture was titled "Non Linear Model of Flexible Beams with Large Deformations."

In his introduction of the speaker to a small but keenly interested audience at the Lockheed Plaza I building, Committee Chairman Don Probe recalled that the 1967 graduate of Harbin Engineering Institute is now serving as the Head of the Research Department of the Shanghai Precision Instrument Institute. He also functions as Design Director of Automatic Control Systems for the Shanghai Bureau of Astronautics (now the Shanghai Academy of Spaceflight Technology). He was technical co-chair of the Fifth International Space Conference of Pacific Basin Countries (ISCOPS) in 1993. As an active member of Houston's Sister Section, he has for the past two years coordinated their contribution of papers to our Annual Technical Symposium. His book, *Large Scale Dynamic Systems* (Northwest Polytechnic Institute Press), is expected to be released momentarily in China.

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## From Our Sister Section *Been There, Done That . . . 25 Years Ago*

### **China Reorganizes Space Activities — Sister Section Moves to New Digs**

**Jim McLane**  
Sister Section Coordinator - China

A note from Professor Wang Yue, Director of the International Cooperation Department, informs us that the Shanghai Bureau of Astronautics (SBA) has been renamed the Shanghai Academy of Spaceflight Technology (SAST). All organizations and key personnel of the original SBA remain the same. The SAST reports to the new China Aerospace Corporation (CASC). At this time we haven't heard how the Chinese Academy of Space Technology (CAST) was affected. Three of the spaceflight-oriented institutes and factories of the sixteen that were included in CAST now fall under SAST.

Offices of the new SAST have been moved from the lovely old German Bank building on the Bund (the waterfront) that dates back to colonial times. They are now located on the 15th through 19th floors of a new building named Spaceflight Tower built by the Academy at 222 Cao Xi Road nearer the main airport on the northwest side of the city. Most of the remainder of the building is leased to tenants having some business interests related to the Institute.

Contact with our Sister Section, the Shanghai Astronautical Society, can be had at the following new address:

Dr. Liang Jin-cai  
Director, Shanghai Astronautical Society  
Room 1602 Spaceflight Tower  
No. 222 Cao Xi Road  
200233, Shanghai, China  
Tel: 011-86-21-4720800 (don't yet have his  
extension, but Wang Yue can be reached at  
ext. 1801)  
Fax: 011-86-21-4720792



**David S. F. Portree**  
History/Heritage Committee

In January 1969, the Manned Spacecraft Center celebrated the successful Apollo VIII circumlunar mission and looked ahead to the first lunar landing—and beyond. The *Space News Roundup* reported it this way . . .

### **Home-Town Welcome for Apollo VIII**

"More than 2000 Houstonians were on hand to welcome the Apollo VIII crew following their historic lunar orbit flight. The crew was given a warm Texas-style welcome when their Air Force jet set down at Ellington Air Force Base in the wee-hours of December 29. The crew, headed by Spacecraft Commander Frank Borman, LM pilot William Anders, and command module pilot James Lovell, accepted the greetings of the throng which included top MSC management, scores of fellow astronauts, MSC employees and numerous small fry." (Excerpted, *Space News Roundup*, January 24, 1969.)

### **Apollo XI—Flight Crew Named for Possible Lunar Landing**

"NASA named astronauts Neil A. Armstrong, Michael Collins, and Edwin E. Aldrin, Jr. to begin training as prime crewmen for the Apollo XI mission planned for July 1969.

"Apollo XI is currently considered as the earliest possible mission in the Apollo Program to attempt a landing on the moon. It is possible, however, that either of the two preceding missions, Apollo IX and X, could demonstrate a need to fly an alternate mission on Apollo XI, thus moving the lunar landing to a later flight." (Excerpted, *Space News Roundup*, January 24, 1969.)

(continued on page 3)

*Been There, Done That . . . (cont.)*

## **Low-Cost Spacecraft Module Scheduled for In-House Tests**

"An experimental, low-cost spacecraft module which could provide the technology base for a future space station design is being readied for testing at Manned Spacecraft Center. The vehicle...represents a module of a...space station for the mid-1970s following the Apollo Applications Program (AAP).

"Mission Operations Modules or MOMs...could be linked up in orbit or on Earth to form a space station, with the same basic structure serving as subsystems module, crew quarters, experiment carrier, or resupply carrier. Or single modules could be flown as complete spacecraft equipped to do a specific job at minimum cost." (Excerpted, *Space News Roundup*, January 24, 1969.)

## *Also Noted*

### **AIAA TV Courses**

AIAA National has announced two special courses in communications satellite design to be presented this year. Both courses are presented by Dr. Gary D. Gordon, aerospace consultant, and produced by the University of Maryland Instructional Television System.

The first, "Performance of a Communications Satellite: Calculating Antenna Sizes and Required Power," will be given February 9, 1994, from 11 AM to 5 PM EST. This in-depth course shows how to calculate link power budgets. This measures the performance of a satellite communications link. The link budget determines the required power in a transmitter, the size of an antenna, and the receiver performance needed. Many basic concepts will be explained: antenna gain and beamwidth, free space path loss, and various ratios that measure performance. The course is focused on geostationary satellites, but the principles apply to any satellite, or even to microwave relays on earth. The emphasis of the

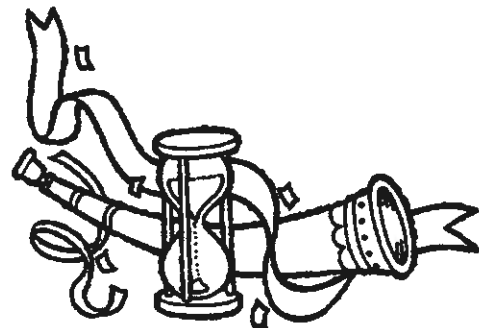
course is technical, with many equations, graphs and tables presented.

The second course, "Spacecraft Technology," broadcast on March 9, 1994, describes the hardware in a communications satellite. The communications subsystem includes the antenna, receiver, multiplexing and switching, and power amplifier. The other distinct subsystems include the electric power, the attitude control, and the TT&C subsystems. The course also covers thermal control, testing, and reliability of a communications satellite. Many basic concepts will be explained. The course is focused on geostationary satellites, but the principles apply to many satellites. The emphasis of the course is technical, with equations, graphs and tables.

Both courses are intended for technical individuals that work in a technical environment and would benefit by understanding basic principles. These individuals may be in telecommunications, the aerospace industry, the military, TV broadcast, or an academic environment. The courses are designed for college graduates with an engineering degree. There is no specific prerequisite, but a general background in mathematics, engineering and electronics is assumed.

The courses will be broadcast live via C band and Ku band satellite from the University of Maryland Television System and on the National Technological University Network. Access to a satellite dish is necessary. The down link site license for these courses is \$1500 each. Videotapes can be made available for \$1700 each.

For more information, call (301) 405-4905.



## *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. Please send pertinent details to the editor, Lou Livingston, 1911 Pepper Hill, Houston, TX 77058.

### January

#### 20 - Thursday

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

#### 24 - Monday

*Horizons* inputs due COB.

#### 27 - Thursday

Monthly dinner meeting.  
"National Aerospace Plane."  
JSC Gilruth Center, 5:30/6:30/7:30.

### February

#### 1-4 - Tuesday-Friday

Dual-Use Space Technology Transfer Conference and Exhibition.  
JSC Gilruth Center.  
Information: Dr. Kumar Krishen, 283-5875.

#### 17 - Thursday

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

#### 24 - Thursday

Monthly dinner meeting.  
Program TBD.  
JSC Gilruth Center, 5:30/6:30/7:30.

#### 28 - Monday

*Horizons* inputs due COB.

### March

#### 21-24 - Monday-Thursday

AIAA/NASA Conference on Intelligent Robots in Field, Factory, Service and Space (CIRFFSS).  
South Shore Harbour Resort and Conference Center.

Information: Mary Stewart, 483-1724 (fax 483-7580).

#### 24 - Thursday

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

#### 28 - Monday

*Horizons* inputs due COB.

#### 31 - Thursday

Monthly dinner meeting.  
DC-X (tentative).  
JSC Gilruth Center, 5:30/6:30/7:30.

### April

#### 21 - Thursday

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

#### 25 - Monday

*Horizons* inputs due COB.

#### 28 - Thursday

Monthly dinner meeting.  
Program TBD.  
JSC Gilruth Center, 5:30/6:30/7:30.

### May

#### 19 - Thursday

19th Annual Technical Symposium.  
Details TBD.

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

#### 31 - Tuesday

*Horizons* inputs 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.

## AIAA Member Services Contacts

AIAA Headquarters has provided the following guide to identify the appropriate staff person to call for a specific need. The Headquarters telephone number is 202 / 646-7XXX.

<u>Area of Concern</u>	<u>Contact</u>	<u>Extension</u>
Address changes	Tara Williams	525
Distinguished Lecture Program	Karen Thomas	442
Employment Assistance Program	Christine Aldrich	568
Honors & Awards	Merrie Scott	534
Membership:		
Recruitment & retention (application, brochures, etc.)	David Owens	478
	Leslie Scher Brown	430
Membership pins & certificates	Kate McDermott	537
Membership questions (new member processing, renewals, reinstatements, general questions)	Patricia Carr	533
	Holley Miles	519
	Johnnie White	562
	Stacey Travers	523
Membership upgrades:		
Senior Member, Associate Fellow, Fellow, Honorary Fellow	Kate McDermott	537
Student-to-Professional	Patrick Gouhin	457
Missing journals / <i>Aerospace America</i>	Stacey Travers	523
Monthly reports/labels	Karen Thomas	442
Newsletters:		
Mind Jogger	Karen Thomas	442
Lifeline	Susan Hughes	310 / 643-7510
New member news	David Owens	478
Precollege Outreach Programs	Beth Goodman	444
Personal Line Brochure (gifts for speakers, etc.)	Leslie Scher Brown	430
Section rebates	Karen Thomas	442
Student memberships	Patrick Gouhin	457
	Maria Kleamis	458
Video Tape Loan Program	Susan Hughes	310 / 643-7510

## OUTSTANDING SECTION AWARD



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

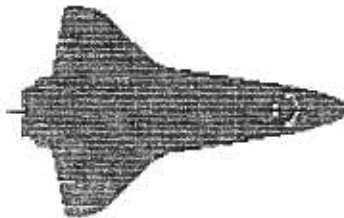


## SECTION SPECIAL EVENT AWARD



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, January 27, 1994**

**NATIONAL AEROSPACE  
PLANE**

**MAJOR WILLIAM K. WEST  
Chief, Technology Transfer  
NASP JPO**



**PRESENTER / PROGRAM**

Major West is Chief, Technology Transfer Branch, for the National Aero-Space Joint Program Office(JPO). He has held the position for 1 year. His duties include promoting the use of NASP developed technologies throughout commercial and civil programs, as well as other military programs. Prior to this he was Program Manager of the NASP JPO and the B-1B SPO. Major West's presentation will discuss the NASP, its revolutionary technologies, the technology transfer process, technology transfer successes, future plans, and metrics for measuring technology transfer.

**DINNER MEETING**

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

**MENU: CHICKEN CALIFORNIA**

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

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

**FRANKIE HAP  
333-6064  
LOCKHEED**

**ARDELL BROUSSARD  
283-1040  
McDONNELL DOUGLAS**

**MARY ANN BIVONA  
483-1350  
RSOC**

**SARAH LEGGIO  
282-3160  
BENDIX**

**NOTE: RESERVATION DEADLINE IS MONDAY, JANUARY 24, 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.**