

AMERICAN
INSTITUTE OF
AERONAUTICS AND
ASTRONAUTICS

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HOUSTON SECTION

# newsletter

NOVEMBER 1977

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#### MINI-SYMPOSIUM IN MARCH

Plans for the 1978 Mini-Symposium are well underway. Mr. James A. Chamberlin, MDAC, has accepted the role of General Chairman. Mr. Joseph P. Loftus as Technical Vice Chairman is to act as a principal coordinator.

The Mini-Symposium has been one of the Section's most productive technical initiatives. It offers the opportunity to display for a wide professional audience the activities and accomplishments of AIAA members and other professionals in the area.

This year's program is open to papers on any topic and to reports of work in progress,

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as well as that recently completed. The Mini-Symposium, by its informality, offers a unique opportunity to present technical papers to a professional audience with a minimum of expense and overhead burden. These characteristics are carefully guarded to encourage participation by the junior members of the section and profession.

This year's Mini-Symposium will be held 1:00 to 6:00 p.m. at the Gilruth Recreation Center at the Johnson Space Center on March 21, 1978. A dinner meeting and speaker will conclude the day's events. The dinner speaker will be a senior speaker on a major topic of interest to the section and its membership.

The key to the success of this event is the breadth of participation by the members of the section. Last year better than 50 percent of the proposed papers were accepted. In this year's symposium, we hope to improve that acceptance ratio, and the attendance at the later sessions by offering a speaker of exceptional interest to the section.

#### PLEASE PARTICIPATE IN ALAA SALARY SURVEY

We hope you will all take the time to participate in AIAA's first member salary and benefits survey which Len Rosenberg of AIAA Headquarters is conducting. There is a questionnaire on pages 67-68 of the November issue of A/A which will only require a few minutes of your time to fill out. No return postage is required. Please take the time to participate in the survey.

# McLANE APPOINTS TWO HOUSTON SECTION MEMBERS

Jim McLane, Director of AIAA Region IV, has appointed two hard-working Houston Section Members to important Regional positions.

Past Chairman Clay Hicks has been appointed as Region IV Deputy Director for Public Policy; and Chester Vaughan has been appointed as local planning coordinator for the first Regional Conference ever held in Region IV, planned for 1979.

In a companion article in this Newsletter Clay Hicks explains his charter and goals in his new position. We'll keep you up to date in future Newsletters on activities in both areas.

#### DUTIES OF DEPUTY DIRECTOR, PUBLIC POLICY, REGION IV

As noted in the preceding article, Clay Hicks of JSC has been named as Deputy Director of Public Policy for Region IV. His "job description" is as follows:

- Promote and nurture the public policy objectives of AIAA within the Region.
- Advise and assist Sections within the Region in the area of public policy activities.
- Collect and disseminate information on current public policy activities which may be useful to local Sections in formulating or improving their local programs.
- Maintain a current awareness of national public policy activities, programs, and future plans with a view to assuring that Region IV is acting in concert with national goals and objectives.
- Maintain a meaningful and continuing liaison with appropriate individuals in the Region IV Sections, Student Branches, and the national organization.
- Advise and consult with the Regional Director on public policy activities within the Region.

Cooperate with the Regional Director and other Deputy Directors in the formulation, development and implementation of plans to further the objectives of AIAA in Region IV.

Meetings. The Deputy Director, Public Policy, is expected to attend meetings of the Region IV Advisory Committee (usually three each year) and to present a report at each meeting.

He is encouraged to attend meetings of the national Public Policy Committee as a guest and observer whenever possible.

He is encouraged to attend, in a highly visible manner, as many regular or special functions held within the Region as possible (mini-symposia, student conferences, national specialists meetings, etc.).

He is encouraged to visit, in an official capacity, with local Section Councils and student Branch Faculty Advisors and Officers whenever incidental travel permits.

#### Primary Contacts.

Regional Director

Regional Deputy Directors

Section Vice-Chairman, Public Policy (or equivalent)

Student Branch Faculty Advisors Chairman, Public Policy Committee AIAA Staff Representative: Don Stone

AIAA Administrator of Public Policy: Dr. Jerry Grey

AIAA Washington Representative: Johan Benson

Clay will be developing specific plans and programs. Those of you interested in helping him in this area should give him a call at 483-4601.

#### REGION IV RAC EXPRESSES CONCERN OVER TRAVEL RESTRICTIONS

The Region IV Regional Advisory Committee (RAC) meeting at Austin on October 15 passed a resolution expressing concern over new OMB restrictions on travel for Federal employees to attend conventions, symposia, and conferences. The restrictions, contained in a Bert Lance memo dated August 17, 1977, to the Heads of Executive Departments and Establishments, have been widely interpreted to require the most stringent tests of direct and immediate benefit to the employing agency for meeting attendance. The memo also seems to eliminate employee professional development as a justification for attendance.

There have been several instances where Federal employees have cited the memorandum as the cause for their having cancelled AIAA paper presentations or membership on AIAA National Technical Committees. The RAC IV resolution, introduced by Deputy Director-Technical Warren Curry of Sandia Laboratories, calls on AIAA Executive Secretary James Harford to bring this matter to the attention of the November meeting of the Council of Engineering and Scientific Society Executives (CESSE).

In a memorandum to Region IV Director Jim McLane in which he confirmed that this would be done, Harford suggested that "It may be that we should try to communicate to President Carter himself the convictions of the engineering and scientific community on such an important subject as this". The RAC IV resolution is also on the agenda to be discussed at the November 18 meeting of the AIAA Executive Committee in New York.

Jim McLane

# REGIONAL FACULTY ADVISOR/STUDENT OFFICER CONFERENCE

ATAA Student Branches affiliated with the Houston Section participated in a unique regional Faculty Advisor/Branch Officer conference held on the campus of the University of Texas at Austin on Friday, October 14. Rice Branch Chairman Rick Fienberg and Faculty Advisor Professor Fred Wierum, together with Texas A&M Branch President Keith Spalding and Faculty Advisor Professor David J. Norton, joined representatives from six other Texas, Oklahoma, New Mexico and Louisiana Universities to exchange ideas and meet with the professionals in Region IV.

The meeting was organized and led by Director of Student Programs J. Jeffrey Irons of AIAA Headquarters in New York with the assistance of Region IV staff representative Don Stone of the Los Angeles office.

Houston representation included Regional Director Jim McLane, Deputy Director-Public Policy Clay Hicks, and Deputy Director-Membership Bill Simmons. Attendees had a chance to become acquainted at a wine and cheese party on the evening before the meeting.

Following the busy all-day Friday meeting held in the Dean of Engineering conference room on the UT campus, there was a wrap-up banquet featuring a very entertaining illustrated talk on aviation history by UT Austin Professor and Student Branch Advisor John Bertin. Most participants took advantage of an invitation to attend a meeting of the Region IV Regional Advisory Committee (RAC) held the following day, Saturday, at the same location.

It was interesting to note that two of the Student Branches were represented at the conference by their women chairpersons: Ginger George of LSU, and Karen Goock of UT at Arlington. This conference was planned as an experiment, and its effect on student branch activities will be carefully observed and evaluated to determine whether similar conferences should be planned in other parts of the country. As far as the attendees were concerned no further evaluation was necessary. Their consensus: It was great!

Jim McLane

# JIM OBERG SERVES AS AIAA DISTINGUISHED LECTURER

Jim Oberg, who presented a fascinating program on the Soviet Space Program to the Houston Section Meeting on November 14, will be providing the same treat to many other AIAA Sections during the remainder of the year. Jim, who is a career Air Force officer on detail at JSC, has been selected by AIAA Headquarters as an invited participant to the AIAA Distinguished Lecturer program.

This program is a means by which AIAA Headquarters arranges for and subsidizes the traveling expenses of a few outstanding speakers and lecturers for some of the AIAA Sections in the country. It is quite an honor to serve AIAA in this manner and we are all pleased that Jim will be carrying his outstanding program all around the country.

Jim has twice won the National Space Club's Robert Goddard Space History Award for his work on the subject. He is already swamped with requests for his services with nine appearances already scheduled, from San Antonio to Milwaukee to Syracuse.

# HOUSTON SECTION COMPETES FOR HONORS AGAIN

We are proud to learn that the Houston Section has been selected as the AIAA Region IV candidate for the yearly Outstanding Section Award (175-499 members) and as the candidate for the Newsletter award.

As you will remember, we won Outstanding Section Award last year and we're really hopeful this year too. We've never won the Newsletter Award and we feel it's about time. The winners will be selected by the Regional and Sectional Activities Committee meeting in Kansas City in the very near future.

#### S & T COMMITTEE PLANS ACTIVITY

The new Science and Technology Committee at its first meeting reviewed its Charter and plans to develop local Events of Interest release. We are considering an insert for the AIAA Newsletter entitled "SCI-TEC SCANNER." Highlight trends from non-aerospace scientific editorials or technical publications would be used.

Its purpose would be to:

- 1. Provide our members a broad view of science/technology as seen by other organizations or publications.
- 2. Plead the case of R&D...Its results and why we need more.
- 3. Increase the awareness of non-aerospace members of our area to the political aspects and advantages derived from aerospace S/T.

We are looking for HELP! We need both new committee members and editorial/technical inputs. Please send either to J. Dishler (483-2771), S. Naqvi (488-5660 X 233), or L. Friesen (488-5660 X 293).

Jules Dishler Chairman

# CONTINUING EDUCATION - MIT COURSE IN CONTROL THEORY

MIT is offering a course on Modern Control Theory given by Michael Athans. The course is presented on video-tapes which can be rented from MIT. Study guides which lead the student on a step-by-step path through the subject can be purchased.

<u>Prerequisites</u>: Those taking the subject should have had an exposure to basic linear algebra and elementary linear systems theory. To use the computer routines, elementary Fortran is sufficient.

The course is divided into five separate parts:

Part 1 - System Analysis
11 Videotapes
11-Week Rental - \$477

Part 2 - Deterministic Optimal Control
10 Videotapes
10-Week Rental - \$395

Part 3 - Deterministic Optimal Linear Part 4 - Stochastic Estimation
Feedback 18 Videotapes
20 Videotapes 19-Week Rental - \$765

Part 5 - Stochastic Control 14 Videotapes 14-Week Rental - \$535

The cost of renting parts of the course is obviously very high. If enough people are interested, however, we can get the price down to \$10 - \$20 a person.

Anyone interested in taking or obtaining more information on any part of the course should contact John Sunkel, NASA/JSC, Mail Code EJ2 (483-4611).

#### RELIABILITY AND MAINTAINABILITY SYMPOSIUM

We have been requested by the organizers of the 1978 Annual Reliability and Maintain-ability Symposium to remind you of the upcoming Symposium, January 17-19, 1978, at the Biltmore Hotel in Los Angeles. Norman Chaffee has additional information at 483-3851.

#### L-5 Society Meeting

Out of deference to the season's holidays, the December meeting will be held on the second Wednesday of the month, December 14, at 7:30 p.m. Describing the "Space Shuttle Transportation System" will be guest speaker Ivy Hooks, an aerospace engineer from UH, and Special Assistant to the Director of Johnson Spacecraft Center. Ivy presently works on the Shuttle's separation system and was involved in the recent ALT Shuttle flight tests.

The meeting will be held on the top floor of the Fannin Bank Building in Houston at the corner of Main and Holcombe.

#### SECTION HEARS WILLIAMS

AIAA/NASA-Houston Section, in conjunction with the Marine Technology Society, conducted a program on October 19th, entitled "Sea-Sat's Contribution to Ocean Remote Sensing and Forecasting", which was presented by Frank Williams, Director, Special Programs, NASA Headquarters, Washington, D.C. The meeting was held at NASA's Gilruth Recreation Center.

Mr. Williams became associated with NASA at Langley in 1951 and later joined the NASA "Von Braun Team" at the Marshall Space Flight Center, Huntsville, Alabama. In 1969 he was assigned to NASA Headquarters' Control Planning Staff Office, where he served until his present assignment.

The presentation and discussion focused on NASA's philosophy of application, using "Sea-Sat" as an example demonstrating how such a spacecraft can direct the efforts of community, industry and Government toward a common goal. A detailed description of the vehicle and its capabilities was discussed.

Major mission objectives were: 1) Measure Global Ocean Dynamics and Physical Character-istics; 2) Determine Key Features of an Operational System; 3) Improve Body of Scientific Ocean Data and Knowledge; and 4) Demonstrate Utility of Data to User Community. Economic Cost/Benefits were reviewed and Scientific Benefits assessed.

This was a highly beneficial evening. The Meeting Coordinator was Dorothy B. Lee, Associate Fellow, Member, Section Council and NASA Engineering Staff, Structures and Mechanics Division.

# JIM OBERG ADDRESSES NOVEMBER MEETING

This AIAA Meeting, held at the Gilruth Recreation Center Monday, November 14th, was addressed by Mr. James E. Oberg, on the "Soviet Space Program". He is a recognized authority in the field.

Mr. Oberg is an Air Force Officer detailed to NASA in a very special and unique capacity as a Specialist in Flight Operations at the Johnson Space Center. He was twice a winner of the National Space Award concerned with the Robert Goddard Space Center and information presented is a matter of public record, although not widely known.

The Soviet Space Program remains mysterious and fascinating even after twenty years. The details of successes, failures and future direction are difficult to ascertain. The speaker presented slides, diagrams and photographs of early Soviet space ventures, including the first real success, the Sputnik Space Vehicle.

Design details were discussed and comparisons made with those achieved in the United States. Comments, photographs and design details were also presented concerned with the recent joint U.S.-Soviet Mission (Apollo-Soyuz Test Program - ASTP). Background information relating to the Russian Cosmonauts was also revealed.

Possible future directions were commented upon as a matter of conjecture, and a definite and positive approach was indicated in the current planning for a second joint U.S.-Soviet Space Venture.

The Meeting Coordinator was Mr. Thomas B. Murtagh, Chairman, AIAA-Houston Section and Staff Member of the Data Systems and Analysis Directorate, NASA, Johnson Space Center.

#### OCTOBER FIELD TRIP TO RICE UNIVERSITY

Despite the weather, which ended up cooperating, the planned day's events turned out to be very enjoyable. The outing started by gathering at 4:30 p.m. at parking lot "F" on the north side of the Rice University campus.

The group was then escorted to the Ryon Engineering Laboratory by Professor Fred Weirum, Mechanical Engineering Department and Rice Student Chapter advisor, and Rick Fienberg, Chairman of the Rice Student Chapter.

Here, after a brief greeting to the Rice campus, Dr. John Freeman, Professor of Space Physics and Astronomy, was introduced and apprised us of a recent grant from the Brown Foundation for Space Solar Power Studies.

Building on the results of recent NASA studies, Dr. Freeman explained the areas of endeavor that the Rice study teams would pursue. The major teams being formed are for Natural and Physical Effects, Policy and Planning, and Economics.

Detailed studies will be done on microwave interaction with the ionosphere (heating effects); simple devices for direct photoelectric conversion of energy; chemical effects on the atmosphere and ionosphere; design of rectennas; atmospheric noise pollution; and lightning effects on rectennas, to name a few. We wish the teams much success.

Following this, the group then took a pleasant walk through the picturesque Rice campus to the Rice Museum, being held open especially for us. There we browsed among two current shows: An exhibition of 63 of the shadow boxes, objects, and collages of Joseph Cornell; and "The 'I' at Play", a selection of images and objects from the Menil Foundation Collection. Both exhibitions will remain open through December 31, 1977.

The picnic lunch was planned to be held in a shady grove of trees near the Rice Museum, but due to the earlier rains we had to make do with the parking lot, various vehicles and the nearby building stairs. The fried chicken was passed out and included whipped potatoes, cole slaw and rolls. Soft drinks and beer were plentiful.

After dinner those who were finished strolled to nearby Rice Stadium to claim their reserved seats (west side, upper level, 30 to 50 yard line). The last part of the group arrived at their seats just in time for the playing of the Star Spangled Banner.

As you know, the Aggies won the football game 28-14, but the win was far from automatic, with the young Rice Owl team continually fighting back, making for an exciting finish for the 57 thousand plus fans.

As mentioned previously, the weather turned out to be perfect for the game, considering when we drove up from the Bay Area at 3:00 p.m. it was pouring rain.

Many thanks to the Rice personnel, Professor Fred Weirum, and Rick Fienberg for their super job of arranging for our stay on the Rice campus, and Dr. Freeman for his talk. We also thank Norm Chaffee and Ernie Hillje for arrangements from the AIAA Houston Section side, and to all those people who participated in the outing.

For those of you who missed a great time, better luck next year!

#### RICE STUDENT BRANCH UPDATE:

The Rice Student Branch has had a very successful fall semester. The membership increased from about 10 members in August to nearly 30 by the end of October. Many of these members were active and interested in attending a wide range of AIAA activities.

The September meeting featured Mr. Ron Thory from the European Space Agency speaking on Spacelab and other ESA programs. Over 30 students attended this meeting, and all found the presentation quite interesting and enjoyable. For October, Mr. Dave McKay of NASA spoke on what the Apollo lunar landings have told us about the moon. Again, there were at least 30 students present.

In keeping with the spirit of cooperation between the Rice Student Branch and the Houston Section, the Rice AIAA stresses attendance at the Section meetings. Several students have attended the Section meetings each month, and each has found these gatherings very worthwhile.

On October 14, Branch Chairman Rick Fienberg and faculty advisor Fred Wierum travelled to the University of Texas at Austin for a briefing with the other Region IV branches. Jeff Irons from the New York office ran the briefing, during which each branch's representatives exchanged ideas about how to have successful events, how to recruit members, etc. Everyone thought the day in Austin was terrific, and it is very likely that this type of event will be held in the other Regions in the near future.

For the spring semester, the Rice Student Branch is planning a tour of the Space Shuttle Astronaut Training Facilities. In particular, the branch members hope to see the orbiter simulators and perhaps talk with one of the pilots.

Rick Fienberg Chairman Rice Student Chapter

#### TAMU STUDENT CHAPTER UPDATE:

Keith Spradling, Chairman of the TAMU Student Chapter, has sent us a calendar of their planned activities for the coming year, and they are indeed planning a busy schedule.

As of this date they have already held six meetings or events, including a Career Day, open house and orientation for Freshmen and Sophomores, and three talks by speakers from NASA and the aircraft industry.

For the remainder of the year another nine events are scheduled, including a variety of speakers, field trip, the Brazos County Science Fair, the Student Paper Competitions in Dallas, and the Spring Banquet.

#### CONGRATULATIONS TO STAN LOWY

Mr. Stan Lowy, Professor of Aerospace Engineering at TAMU, has received the AIAA/ASEE Aerospace Divison's 1977 Educational Achievement Award and will be honored at the AIAA Aerospace Sciences Meeting in January at Huntsville, Alabama.

The award includes a medal, certificate, and a \$1000 honorarium. Stan, we all join in sending you a hearty congratulations.

#### MEMBERSHIP MATTERS

New Section Members. a hearty welcome to the following new members of the Houston Section. We urge each of you to actively participate in the Section activities, for only in this way can you realize the full benefits of your membership.

NAME	ORGANIZATION	OFFICE PHONE
	September 1977	
<pre>#*Dietrich, D. A.</pre>	?	?
<pre>#*Donald, Harold H.</pre>	?	?
Guild, Calvin C.	JSC/PH	483-6247
<pre>#*Herbeck, David G.</pre>	?	?
*Honeycheck, Thomas S.	?	676-8006
<pre>#*Kiefer, John W.</pre>	?	?
#Lunney, Glynn S.	JSC/PA	483-2708
	October 1977	
Buzzard, Frank P.	JSC/FM4	483-3458
Chiu, Plamer B.	McDonnell Douglas	488-5660 X 238
Heffington, Warren M.	Texas A&M University	693-4451
Humphreys, David M.	McDonnell Douglas	488-5660 X 245
McGetchin, Thomas R.	Lunar Science Institute	488-5200 X 38
#*Stockton, Robert R.	?	?
Tunnicliff, Ronald B.	McDonnell Douglas	488-5660 X 211

<sup>#</sup> Member transferred from another AIAA Section; others are new AIAA members.

Advances in Grade. Our congratulations are extended to the following section members who have been advanced to the membership grade indicated:

	September 1977	New Grade
Dula, Arthur M.	Butler, Binion,	Member
Hood, Robert C.	JSC/BA5	Member
Murphy, Michael R.	Kirby Building Systems	Member

October 1977

None

<sup>\*</sup> Call Bill Simmons (483-3918) and provide missing information.

#### Membership Status - Region IV Sections.

	ASSIGNED MEMBERS				MEMBERS RECRUITED#		
	*6/30/77	10/31/77	% (	Change	Number	% of Base	
Albuquerque	160	169	+	5.3	7	4.4	
Central Texas	22	22		0.0	1	4.5	
Hollomon-Alamogordo	34	36	+	5.9	2	5,9	
Houston	507	525	+	3.6	20	3.9	
Inland Missile Range	39	42	+	7.7	2	5.1	
North Texas	541	563	+	4.1	19	<b>3.5</b>	
Oklahoma	·90	100	+	11.1	5	5.6	
Southwest Texas	100	98	-	2.0	2	2.0	
Region IV	1493	1555	+	4.2	58	3.9	

<sup>\*</sup>Base for 1977-78 calculations

Comment: C'mon fellers - Get out and sign up those new members! Houston isn't showing up so well this year!

# ATAA Regions (Column headings as above)

Region I	6477	6612	+	2.1%	222	3.4%
Region II	1750	1834	+	4.8	81	4.6
Region III	1835	1846	+	0.6	53	2.9
Region IV	1493		+	4.2		3.9
Region V	1536	1581	+	2.9	69	4.5
Region VI	7967	8159	+	2.4	255	3.2
		0133	•	2.7		J. L
National Assigned	21058	21587	+	2.5	737	3.5

Comment: Our region (IV) is holding up its end, but we're only #2 in assigned member increase and #3 in recruiting.

Membership Chairman Awards Status. Here are the standings as of October 31st, with the year 1/3 gone.

Large Sections:	#1-Long Island (25.54); #2-Pacific NW (25.49); #3- National Capital (25.22). <u>Houston is #7</u> (51.38) and North Texas is #8 (14.61). 14 Sections in this category.
Medium Sections:	#1-Palm Beach (25.42); #2-Wichita (23.26); #3-Tennessee (23.13). No Region IV Sections in this category of 15 Sections.

Small Sections: #1-Vandenberg (87.96); #2-Tampa Bay (42.11); #3-Central Florida (39.38). 41 Sections in this category; Oklahoma is #6 (27.78), Hollomon-Alamogordo is #9 (23.53), IMR is #11 (23.07). Other Region IV Sections are Albuquerque (18.76), Central Texas (13.64) and Southwest Texas (4.00).

Dues Are Now Past-Due. As of October 31st, the national renewal rate was 76% (of the members billed in July). Last year at this time the rate was 83.5%. That's way below

<sup>#</sup> Cumulative this year

the renewals budgeted to date. Have you paid your dues? If not, won't you take care of it right away? Those not paid as of 11/30 will be suspended; those still unpaid on 12/31 will be dropped from the rolls. The Membership Committee has the responsibility of contacting all suspended members; please send in your dues right away and, when you are contacted, advise the caller of the approximate date you sent in your dues; this will permit a rapid check to see if they were lost in the US Snail, improperly credited, etc.

If you are considering discontinuance of your membership (Heaven Forfend!), please reconsider; every single member is important to AIAA and we believe that AIAA is important to every one of its members! If you are dissatisfied, or have a specific gripe, either local or national, please advise the committee caller of its nature — I'm sure that you realize the difficulty of solving unidentified problems, you've probably tried it yourself. Continue your membership and work to make AIAA the organization you want it to be — this can be done only from the "inside".

AIAA exists to better our profession and we need you to do the job!

#### LATE NEWS FLASH!! - HOUSTON HONORED AGAIN

The AIAA Regional Directors voted on 17 November to award the Houston Section the Outstanding Section Award for 1976-77 in the size range 175-499. This is the second year in a row that we have won this award.

# 1977-78 HOUSTON SECTION PROGRAMS

DATE	PROGRAM	SPEAKER
Sept. 20	Legal, Economic and Business Realities of Initial Space Industrialization	Art Dula
Oct. 19	Sea-Sat's Contribution to Ocean Remote Sensing and Forecasting	Frank Williams
Nov. 14	Soviet Space Program	Jim Oberg
Dec. 6	Cruise Missile	Sherman Hislop
Jan. 17	Space Shuttle Panel	<u>~~~</u>
Feb. 15	Aviation History	John Bertin
Mar. 21	Mini~Symposium	
Apr. 18	Fusion as Source of Energy	
May 16	0pen	

Please keep this calendar of events and plan to attend each monthly meeting. You will find it a rewarding and informative experience.

Tom Mwrtagh Chairman, Houston Section