



THE SOUTH TEXAN



VOL. 92, NO. 8
November, 1992

American Institute of Chemical Engineers • South Texas Section

ANNIVERSARY GALA DINNER & DANCE

50TH 50TH

American Institute of Chemical Engineers Council on 3, 1942 officially recognized the Southeastern Texas Club as a Section, henceforth known as the South Texas Section (STS). Within the first year of formation the Section roster listed 107 members, whereas today the number of members has grown to 4,200. The STS has successfully performed as a leader in bringing technological advances to the attention of its membership. The past five decades have also been filled with services and activities in bringing people and technology together to meet both the changes and challenges of society.

The Golden Anniversary Planning Committee with the support of the Executive Advisory Board is pleased to announce the final details of the highlight event of this anniversary year. The 50th Anniversary Dinner - Dance will be held on the 14th of

November and will commemorate the success and accomplishments of the South Texas Section Membership.

Everyone who is a member of AIChE National who resides or works in South Texas Section or in immediate surrounding sections have been sent personal invitations. If you have not received an invitation, please inquire: (713) 872-2176 or (713) 589-3537. In continuing the STS's support of educational programs, scholarships, and career guidance, all proceeds in excess of costs for the evening will be directed toward education initiatives.

It is the sincere wish of the Golden Anniversary Committee that you will assist in ensuring that the celebration is a success and join in celebrating fifty years of achievements by the Chemical Engineers of the South Texas Region.

1942 1992

*The Officers of the South Texas Section
request the pleasure of your company at the
Golden Anniversary Gala Dinner - Dance
celebrating 50 Years as a section of
The American Institute of Chemical Engineers
Saturday, November 14, 1992
Cocktails at 7:30 Dinner at 8:45
The Doubletree Hotel at Post Oak
Houston, Texas
Advanced Sales are required by Wednesday November 4, 1992
\$25.00 Per Person
Inquires: (713) 872-2176
or (713) 589-3537*

*Semi-formal Attire
Cash Bar*

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FROM THE CHAIR



IN MEMORIAM

GARY LEACH

BORN: MARCH 11, 1937

DIED: OCTOBER 6, 1992

Please make Memorial Donations to:

AICHe Foundation
Scholarship Fund
345 East 47th Street
New York, N.Y. 10017

A TRIBUTE TO GARY LEACH

The following "From The Chair" column was written Tuesday morning October 6, just hours before Gary passed away. As a tribute to him I felt it best to leave the column unchanged.



Isn't it ironic that at the very time we were reading last month's "The South Texan" feature profile on Gary Leach and were continuing our Golden Anniversary Celebration with a "rollback" meeting at Brady's Landing, Gary lay in Bayshore Hospital, having suffered a stroke on Monday, September 28th. Gary is working hard on his recovery with his usual faith, optimism and unshakable resolve. However, his setback reminds us of our vulnerability and how sudden unpredictable events can affect our lives. It also reminds us that we don't have forever to

make a difference and leave a legacy. Certainly Gary has already left a legacy. But after speaking with him last week, it is clear that he is looking forward to getting back to work and continuing to make a difference. Gary is a great model from whom we can all learn.

This section has been blessed with many "Gary's" who have made a difference over the last 50 years not only in the Section, but in the world. Who will be the "Gary's" of the next fifty years? Are you one of them? What better way to culminate our Golden Anniversary celebration than to resolve as individuals and as a group over the next 50 years to make the world a better place to live, as have the "Gary's" of the last 50 years.

Peter Waldheim

South Texas Section 1992 - 1993

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345 East 47th St., New York, NY 10017
To expedite your request, all inquiries should be made through New York

C.E.O. CHEMICAL ENGINEERING OPPORTUNITIES

A SUMMARY OF ACTIVITIES IN SEPTEMBER:

Placements	12+
New Volunteers	14
Job Leads from Companies	2
Job Leads from Agencies	30-50
Profiles: Chemical Engineers	21
Profiles: Chemists	9

There was a substantial monthly increase in placements in September. Many of these are on contract work for five days or less per week. Graduates of May, 1992 have been registering and volunteering for C.E.O. and are still seeking work.

John Dorsey is working part time but continues to supervise C.E.O. operations. Vic Acharya and Linda Smith prepared the profiles mailed at the end of September.

C.E.O.'s office space is small and becoming crowded; we were not prepared to handle a request for a list of college senior chemical engineers and others seeking summer work. Apparently, recruiting on college campuses is below normal.

Any unemployed member of AIChE or ACS may visit the C.E.O. office to inspect the file of inquiries for possible qualification for current opening. It is not necessary to volunteer to make such a visit, but volunteers get first crack at new openings as they come in. So it is well worth volunteering a few hours a week for such an opportunity. The full address and telephone number of C.E.O. are c/o Brown & Root, USA, 10200 Bellaire Blvd., Houston, Texas 77072, (713) 575-4348. If you are planning a visit, please call ahead for directions to the location as well as the procedure for entering the C.E.O. office. Security is still tight; the office door is near the receptionist's desk and is kept locked. Brown & Root receives a list of C.E.O. volunteers every month. No visitor is admitted unless a volunteer is on duty. All volunteers and visitors are issued passés. If you have any questions regarding a visit, please call 575-4348.

John Dorsey, Marx Isaacs

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ENVIRONMENTAL ISSUES

FREE DOCUMENTS AVAILABLE

- **"HAZARDOUS WASTE - A North Carolina Incinerator's Noncompliance with EPA and OSHA Requirements"**. This document discusses the compliance efforts of Caldwell Systems, Inc. during its operation as an interim status TSD facility. 42 pages. Document #GAO/RCED-92-78. June 1992.
- **"RISK-RISK ANALYSIS - OMB's Review of a Proposed OSHA Rule"**. This document discusses the implications of the Supreme Court ruling in *American Textile Mfrs. Inst. v. Donovan (1981)*. 26 pages. Document #GAO/PEMD-92-33. July 1992.

For more information on the above, please contact **Scott Kuhn** at HazMat Products, n.o.s. at 728-5242.

FAITH of the ENGINEER

I am an Engineer. In my profession I take deep pride, but without vain glory; to it I owe solemn obligations that I am eager to fulfill.

As an Engineer, I will participate in none but honest enterprise. To him that has engaged my services, as employer or client, I will give the utmost of performance and fidelity.

When needed, my skill and knowledge shall be given without reservation for the public good. From special capacity springs the obligation to use it well in the service of humanity; and I accept the challenge that this implies.

Jealous of the high repute of my calling, I will strive to protect the interests and the good name of any engineer that I know to be deserving; but I will not shrink, should duty dictate, from disclosing the truth regarding anyone that, by unscrupulous act, has shown himself unworthy of the profession.

Since the Age of Stone, human progress has been conditioned by the genius of my professional forbears. By them have been rendered usable to mankind Nature's vast resources of material and energy. By them have been vitalized and turned to practical account the principles of science and the revelations of technology. Except for this heritage of accumulated experience, my efforts would be feeble. I dedicate myself to the dissemination of engineering knowledge, and, especially to the instruction of younger members of my profession in all its arts and traditions.

To my fellows I pledge, in the same full measure I ask of them, integrity and fair dealing, tolerance and respect, and devotion to the standards and the dignity of our profession; with the consciousness, always, that our special expertness carries with it the obligation to serve humanity with complete sincerity.

Engineers Council for Professional Development (circa 1930)

Scott Kuhn



NEWS FROM NATIONAL

GUIDELINES TO PROFESSIONAL EMPLOYMENT FOR ENGINEERS AND SCIENTISTS

II EMPLOYMENT

(Continued from November's issue)

The following Guidelines were developed for use by employers in evaluating their own practices, by professional employees in evaluating their own responsibilities and those of their employers, and by new graduates and other employment seekers in evaluating their prospective employment posture. They are intended to promote a satisfactory employer-employee working relationship. Because of variations in individual circumstances and organization practices, it is inappropriate to consider evaluations on the basis of any single policy or benefit or on the basis of certain policies or benefits. Rather, attention should be focused on evaluating the entire employment "package," including compensation (salary and other benefits) and such factors as opportunities for advancement, participation in profits, job location, and local cost of living.

Terms of employment should be in accordance with applicable laws and be consistent with generally accepted ethical and professional practices. These terms should be based on mutual respect between employer and employee.

PROFESSIONAL EMPLOYEE

1. Professional employees should accept only those assignments for which they are qualified; should diligently, competently, and honestly complete assignments; and should contribute creative, resourceful ideas to the employer while making a positive contribution toward establishing a stimulating work atmosphere and maintaining a safe working environment.

2. Professional employees should have due regard for the health, safety, and welfare of the public and fellow employees in all work for which they assume responsibility. When the technical adequacy of a process or product is unsatisfactory, professional employees should withhold approval of the plans and should state the reasons for such action. If an employee's professional judgment is ignored or overruled under circumstances where public safety, health, property or welfare is endangered, the employee should first formally notify the employer and then, if necessary, notify such other authority as may be appropriate.

3. Professional employees should sign or seal only plans or specifications they prepared, or personally reviewed and satisfactorily checked, or those prepared by employees under their direct supervision.

4. Professional employees are responsible for the effective use of time in the employer's interest and the proper care of the employer's facilities.

5. Professional employees should avoid conflicts of interest with their employers, and should immediately disclose any actual or potential conflicts.

6. Professional employees should cooperate fully with their employers in obtaining patent protection for inventions.

7. Professional employees should not divulge proprietary information.

8. Professional employees should not accept any payments or gifts of significant value, directly or indirectly, from parties dealing with a client or employer.

9. Professional employees should act in a manner consistent with their profession's code of ethics.

EMPLOYER

1. Employers should keep professional employees informed of the organization's objectives, policies, and programs.

2. Employers should provide professional employees with salary and other benefits commensurate with a professional's contribution, taking into account the employee's abilities, professional status, responsibilities, education, experience, and the potential value of the work to be performed.

3. Employers should establish a salary policy that takes into account current salary surveys for professional employees. The salary established should be commensurate with those for other professional and nonprofessional employees within the organization. The salary structure should be reviewed periodically with respect to the current economy.

4. Each individual position should be properly classified in the overall salary structure. The evaluation of each position should consider such factors as skills required for acceptable performance, the original thinking required for solving problems involved, and the accountability for actions and their consequences.

5. Duties, levels of responsibility, and the relationship of positions within the organization should be defined.

6. Employers should restrict use of titles denoting professional engineering or scientific status to those employees qualified by graduation from an appropriate baccalaureate program, or by professional licensure. Appropriate titles and career patterns not denoting professional status should be developed for other categories of employees such as those holding associate degrees in engineering technology.

7. Economic advancement should be based on merit. Provision should be made for accelerated promotion or extra compensation for superior performance or special accomplishments, including generation of significant propri-

etary information, patents, or inventions. Compensation should be evaluated at least annually.

8. Employers should encourage continuing dialogue with professional employees emphasizing the relationship between current activities and potential future activities in support of organizational goals. This may be accomplished through regular performance evaluations. Professional employees should be informed when their performance is unsatisfactory and should be advised of steps required for improvement. This information should be documented and a copy should be provided to the employee.

9. Employers should consider an equivalent ladder for compensation and advancement of professional employees whose aptitudes and interests are technical rather than managerial.

10. It is inappropriate for professional employees to use a time clock to record arrival and departure.

11. If the work demanded of professional employees regularly exceeds the normal working hours for extended periods, the employer should provide extra compensation for this continuing extra effort according to the employer's clearly stated policy.

12. Employers should also provide such benefits as pensions, life insurance, health insurance (including coverage of catastrophic illness and long-term disability), sick leave, vacations, holidays, and savings or profitsharing plans consistent with current industrial practices. To the extent such benefits are not provided, equivalent additional compensation should be provided.

13. Employers should provide a pension plan for employees who meet minimum participation standards. Based on a full career, the minimum employer-sponsored pension benefit at retirement should be no less than 50 percent of the average best five years' salary. Employer-sponsored pension plans should provide for early participation and vesting, full portability, and survivor benefits. Consideration should be given to periodic increases in pension benefits relating to increases in the cost of living. Pension benefits should not be integrated with Social Security. The fund that supports the plan should not be terminated until all obligations to vested employees and retirees have been met. Tax-sheltered savings plans should be available to provide incentives for individual investment for retirement.

14. Employers should provide support staff and physical facilities that promote the maximum personal effectiveness, health, and safety of their professional employees.

15. Employers should not require professional employees to accept responsibility for work not performed or supervised by those employees.

16. Employers should have established policies for reviewing all items that involve public safety, health, property, and welfare that are brought to their attention by a professional employee. The results of this review should be reported to the employee in a timely manner and opportunity should be given for further input by the employee. Employers should not penalize employees for invoking these policies.

17. Employers should defend any suits and indemnify claims against present or former individual professional employees in connection with their authorized activities on behalf of the employer.

18. There should be no employer policy that requires or forbids a professional employee to join a labor organization as a condition of continued employment.

19. Employers should clearly identify proprietary information and should release employees' inventions and other information that is not useful to the employer.

20. Employers should not discriminate on the basis of national origin, ethnicity, age, race, religion, political affiliation, or sex, with regard to compensation, job assignment, promotion, or other matters.

21. In the event of transfer, employers should allow adequate time for transferring employees to settle personal matters before moving. All normal moving costs of transfers should be paid by the employer, including household moving expenses, realtor fees, travel expenses to the new location to search for housing, and reasonable living expenses for the families until permanent housing is found. Unusual moving expense reimbursement should be settled in a discussion between the employee and employer.

GUIDELINES Series to be continued in December

EMPOWERMENT

I have heard recently many references to engineers having good educations, high status, well-paying jobs, but still feeling powerlessness.

Similar feelings prompted me in December 1991 to begin studying the continued subordinate position of women in American culture. I am particularly interested in studying the oppression of educated women, but also the different ways oppression is expressed within, and of cultural groups (white, black, hispanic, American Indian, etc.)

I propose to begin a scholarly study group within AICHe-STS similar to one formed in the Houston Area Section of the Society of Women Engineers, of which I am immediate past president.

Enclosed is a bibliography (part I) of Women's Studies books I read in the last nine months. Has anyone in the membership read any? Is anyone interested in discussing them? If yes, please contact me.

Karen R. McLain
P.O. Box 840678
Houston, TX 77284-0678
(713) 531-2669

A WOMEN'S STUDIES: A STARTER BIBLIOGRAPHY

PART I

- Belenky, Mary, et. al. *Women's Ways of Knowing (1986)*
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Daly, Mary. *Beyond God the Father (1973)*
DeBeauvoir, Simone. *The Second Sex (1974)*
French, Marilyn. *Beyond Power (1985)*
Gilligan, Carol. *In a Different Voice (1982)*
— et. al. *Mapping the Moral Domain: A Contribution of Women's Thinking to Psychology and Education (1988)*
Harding, Sandra. *The Science Question in Feminism (1986)*
Heilbrun, Carolyn. *Writing a Woman's Life (1988)*
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Steinam, Gloria. *The Revolution from Within (1992)*
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Woolf, Virginia. *A Room of One's Own (1929)*

"GOLDEN YEARS OF THE SOUTH" 50th ANNIVERSARY OF THE SOUTH TEXAS SECTION

This is the fourth article charting the history of the South Texas Section during our 50th year as a section of the AICHe.

In 1970 membership reached a new high of 1,340. The Career Guidance Program was expanded to include special emphasis on disadvantaged youth. The 23 members of the committee contacted over 1,000 students in 11 area high schools, about 400 of whom were classified as disadvantaged or underprivileged. They were given a booklet and shown a film on chemical engineering as a career.

The Pollution Solution Group grew in numbers and influence in the community. Speakers were provided for the first Earth Day programs, presented in April, 1970, at several universities in the area.

"*Bill Cunningham Night*" in April honored W. A. Cunningham of the University of Texas Chemical Engineering Department for his many years of outstanding performance and service to the Section, including being one of the founding members. National President Art Conn was the principal speaker, 320 members and guests attended the dinner. The Annual Wine Tasting Dinner in December, held jointly with the Ladies Auxiliary, was a great success. E. L. (Ed) Ekholm was elected National Director for 1970-1972.

The Executive Committee voted to increase scholarships to chemical engineering students at the four universities from a total of \$1,600 to \$3,200 in 1970-1971, thus benefiting eight students instead of four. The Executive Committee also voted to contribute \$800 to send all four Student Chapter Presidents to the National Workshop each year. The Career Guidance Committee assisted Prairie View A&M in their efforts to establish a Chemical Engineering Department.

Section membership reached 2,370 in 1977. South Texas was the first AICHe Local Section to have over 2,000 members. There were 3,069 National AICHe members and about 7,500 chemical engineers in the area at that time.

The Section applied for a Charter as a corporation in the State of Texas dated October 30, 1979. Notification came in December that the Section, as a corporation, qualified as a non-profit organization exempt from the state franchise tax.

I am still asking for your help. I want lots of items from our past to put in the HISTORY BOOK. My mailing address is: Michael Ayers, John Brown E&C, 7909 Parkwood Circle Drive, Houston, TX 77036. My telephone number is (713) 270-2387. (Please leave your name and number, I will return your call.)

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Saturday, November 14, 1992

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AICHE AMBASSADOR PROGRAM

DID YOU KNOW....

- The top 10% of American 13-year olds scored 13th out of 15 nations in math and science test. We were ahead of Spain and Jordan, but behind countries such as Korea, Taiwan, France, Italy, Canada, and Hungary.

- Only 5% of U.S. high school seniors understand enough geometry and algebra to take advanced mathematics courses.

- Only 19% of U.S. high school graduates have taken physics.

- The percentage of college freshman enrolled in sciences and mathematics fell from 11.5% to 5.8% between 1966 and 1988.

- More than half of adult Americans do not know the earth circles the sun once each year.

- Only 6% of the U.S. adult population is considered scientifically literate.

- Remedial training of U.S. workers costs industry about \$25 billion annually.

- Japan produces about the same number of engineers as the U.S., but has about half the population.

These are but a few of the sobering statistics concerning the sorry state of U.S. technical education. The consequences of poor scientific literacy lead to such abominations as "zero pollution" laws and proposals to spend tax dollars for harnessing the energy from the aroura borealis. Unless we improve technical education in our primary and secondary schools, there is a danger of severe shortages of skilled workers to run our industries.

WHAT CAN BE DONE?

Obviously, we need to improve the technical education in our primary and secondary schools. However, many schools have difficulty attracting qualified science and math teachers since the financial rewards in industry are much greater. For example, 29% of U.S. high schools have no physics teacher, 17% have no chemistry teacher, and 8% have no biology teacher. Often the teachers they do have are not competent in their subject areas; half of the secondary-school math teachers do not meet professional standards. The situation is worse in elementary schools where 66% of science teachers and 80% of math teachers are deficient in their subject.

As a member of the technical community who has somehow survived the system, you have an obligation to improve it. The South Texas Section of the AIChE is catalyzing this effort through the Ambassador Program.

WHAT IS THE AMBASSADOR PROGRAM?

The Ambassador Program is a new initiative in which members of the AIChE South Texas Section act as "ambassadors" between the technical community and the area's primary and secondary schools. By getting involved, you would perform the following kinds of activities:

- judge and/or advise in science fairs
- show videos and slide shows related to the effect of technology on society

- participate in career day
- present chemistry or physics demonstrations (much like those of Tom Hudson, our December STS Meeting Speaker)
- coach math teams
- participate in Engineers-for-Education programs

The coordination of this effort is a challenge since activities will be occurring in the schools throughout our area. Therefore, we have two types of positions: "Captains" and "Lieutenants."

Captains are the contact-people with the school; their names will be supplied to the schools in their local area along with a description of the services provided by the Ambassador Program. The Captains will keep videos, slides, and science demonstration kits at their homes. They will coordinate the activities of the Lieutenants who actually go into the schools. (Of course, Captains are encouraged to go into the schools if they wish.)

Improving our primary and secondary science and math education ultimately must be done at the grass roots level. By becoming involved, you can make a difference in our children's education. To participate, please mail the accompanying form.

I WANT TO PARTICIPATE IN THE AMBASSADOR PROGRAM

Name (print) _____

Home Address _____

City _____

State _____ ZIP _____ (important)

Home Phone _____

Business Address _____

City _____

State _____ ZIP _____ (important)

Business Phone _____

I want to be a Captain / Lieutenant (*circle one*).

I want to visit schools near my home / business address (*circle one or both*).

Please send to:

Mark Holtzapple

Department of Chemical Engineering

Texas A&M University

College Station, TX 77843

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I wish to join the South Texas Section of AICHe

My \$7.00 is enclosed.

Name: _____

Address: _____

City: _____

State: _____ Zip: _____

Affiliation: _____

Phone: _____

National Member of AICHe? YES NO

National Member Number: _____

If I am not a National Member, I plan to apply within
2 years.

1992-1993 MEETING SCHEDULE

NOVEMBER 14 50th ANNIVERSARY
CELEBRATION
DECEMBER 3 HESS
JANUARY 7 OPEN
FEBRUARY 4 HESS
MARCH 4 HESS
MARCH 28-APRIL 1 AICHe NATIONAL MEETING
AND PETROCHEMICAL EXPOSITION
MAY 6 HESS

REGIONAL LUNCH MEETING

Mark your calendars now to attend one of the bi-monthly Regional Lunches scheduled at sites near the ship channel. This is a chance to keep current on STS activities, learn of new technologies, techniques, etc., and to expand your network. Reservations are helpful.

PASADENA & DEERPARK

Date Wednesday, November 18, 1992

Time 11:30 -12:30

Location Golden Corral 7011 Spencer Highway

Speaker Jerry Ramdhani, Weststates Carbon, Inc.

Topic Activated Carbon for

Vapor Phase Applications in the 90's

For Reservations / Information Call Larry Lowell, OXYCHEM

PHONE 476-2347 BY MONDAY, NOVEMBER 16

CALL FOR VOLUNTEERS

The Texas Center for Superconductivity at the University of Houston and the Departments of Physics and Chemistry are sponsoring a science carnival on Tuesday, November 24, 1992. Present plans are for the carnival to be held on the University of Houston campus from 10:00 to 1:00. For the first attempt the attendance will be limited (*this will be a learning experience*). The plan is to invite 350 sixth graders from a selection of schools to cover as broad an area as possible. We will need volunteers to man activity tables for the students. If you are willing to help, contact Tom Hudson at 743-3535 for more information.

RICE UNIVERSITY

CENG Graduate Seminars

The public is welcome; Seminars are free!
(Mechanical Engineering Lab, Rm. 254, 3:00 pm)

October 29

Professor J.C.R. Turner

University of Exeter

Department of Chemical Engineering

Exeter, England

"MUSHROOMS AND THEIR SPORES"

INVENTIVE MIND SERIES

November 10, 1992

7:30 P.M.

LOCATION: Grand Ballroom
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