



March, 1997

The South Texan

Vol. 98, No. 7

**MARCH
9-13, 1997
HOUSTON**

AIChE 1997 SPRING NATIONAL MEETING

**GEORGE R.
BROWN
CONVENTION
CENTER**

Petrochem & Technochem Expo '97 TECHNOLOGY TRANSFER FOR THE TWENTY-FIRST CENTURY



AIChE 1997 Spring National Meeting and the Petrochem & Technochem Expo '97 is upon us, and we would like to invite all of you to come to the biggest and best Spring National Meeting ever held by AIChE. The meeting is aimed at you, the chemical engineer in industry. This includes members in chemical plant operations, engineering design, and regulatory agencies with a special emphasis on the real world problems faced in our jobs.

As the theme implies, this year's meeting is to provide the technology needed for our profession and your job in the twenty-first century. Practical technology is presented by your fellow hands-on chemical engineers that you can take back from the meeting and immediately apply at your job. Among the sessions are the Second International Plant Operations and Design Conference, the 9th Annual Ethylene Producers' Conference, the 31st Annual Loss Prevention Symposium, and the Distillation Symposium. These sessions are practical and down to earth with real

plant and design experiences.

For those of you on the cutting edge of technology, we have four Supra-Sessions including an "Introduction to the Internet" by John Levine, the author of "Internet for Dummies," and "Commercialization of Buckminsterfullerenes" featuring Richard Smalley who shared the 1996 Nobel Prize in Chemistry for their discovery.

Also featured at the meeting is the Petrochem & Technochem Expo '97 with free admission Tuesday, March 11, through Thursday, March 13. Over 400 manufacturers will present and answer your questions about how to specify and use their products. This is the one place to come and see all of the latest advances in equipment for use in chemical and petrochemical plants and refineries. Visit the Arrangements WebSite <http://www.phoenix.net/~jajames/97sprmtg.htm> for more information.

*Dennis Griffith, Meeting Program Committee Chair
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The South Texan is published monthly, except June, July and August, by the American Institute of Chemical Engineers, South Texas Section. Opinions expressed are those of the author and not of AICHe.

The Purpose of the Section, a nonprofit scientific, educational and charitable organization, are the furtherance of the aims and purposes of the American Institute of Chemical Engineers, and the advancement of the science of chemical engineering and of related sciences through (i) the education of members and nonmembers in the sciences (ii) career guidance and financial assistance to students of the sciences and (iii) encouragement of research in the sciences.

From the Chair



This month there will be no Thursday night dinner meeting and technical workshops. Instead the members of STS AICHe are encouraged to attend the 1997 Spring National Meeting and Petrochem & Technochem Expo to be held at the George R. Brown Convention Center, March 10-13.

The monthly meeting, workshops and Spring National Meeting furthers one of the purpose of AICHe: The education of members and nonmembers in the sciences by providing a forum to exchange information and solutions to technical and societal problems. In many cases, the papers presented at the National Meeting are considered part of the continuing education of members and nonmembers. The Texas P.E. board grants one PDH credit for every hour in attendance and ten hours of PDH credit, if you present an original paper.

Held concurrently with the Spring National Meeting are three special interest symposia: the Second International Plant Operations and Design Conference, the Loss Prevention Conference, and the Ethylene Producers' Conference. These miniconferences concentrate on real world solutions to common problems in their areas of specialization. The Second International Plant Operations and Design Conference focuses on solutions to the regulatory compliance, computer control, and general design and operations problems common to operating facilities around the world. The Ethylene Producers' Conference narrows in on their common problems and solutions. The Loss Prevention Conference seeks solutions to prevention of accidents and injuries. Often a session in one symposium can apply to the concerns in another or to the general public.

Besides these symposia, there are sessions of general interest to chemical engineers and the public. The Nobel Prize Winner, **Dr. Richard Smalley**, will present a paper as part of the "Progress Towards Practical Applications of Buckminsterfullerenes" session. Other equally respected presenters will cover transport phenomena issues, unit operations, thermodynamics, recent research, and "How to find a Job."

With the broad range of topics and heavy inclusion of industrial and regulatory speakers, your attendance can provide new approaches to the technical problems you face. You can meet the experts in your field or meet informally with the regulatory inspectors that visit your site.

I hope to see ya'll at the Spring National Meeting, especially Monday afternoon. That is when I will give a paper on real world experience using risk-based, corrected action to cleanup contaminated land.

Laura J. Gimpelson, P.E.

For those of you with Internet access, the program is posted at the AICHe's website, www.aiche.org, where you are just a few clicks away from the most current program information. Call 800-242-4363 or e-mail: xpress@aiche.org for a program and registration information.

AICHE SPRING NATIONAL MEETING AND PETROCHEM & TECHNOCHEM EXPO '97

Planning your personal agenda in advance is absolutely imperative because the AIChE 1997 Spring National Meeting is the biggest and best Spring National Meeting ever held. More technical sessions are being offered than ever before - 138 (at printing.) This meeting is full of choices, so every chemical engineer will be able to find something of interest.

As the Meeting Program Committee Chair, I would like to invite each of you to the AIChE's 1997 Spring National Meeting and Petrochem & Technochem Expo '97 which will be held at the George R. Brown Convention Center in Houston, March 9-13, 1997. The meeting is intended for us, the Chemical Engineers who are working in industry, government, and academia. Because the things Chemical Engineers are doing is so broad and diverse, the content of the meeting is broad and diverse, too. Included in the meeting will be such topics as plant operations and design, process safety, environment, management, and nuclear engineering. Plus, there will be special sessions on new and emerging technologies such as Buckminsterfullerenes and the Chemical Engineering uses of the internet.

We have been working with National AIChE over the past few years to change the focus of the meeting from "Research and Development" to "Practical Applications of Advanced Technology." This meeting is the kind of programming we need to do our jobs better: productively, safer, and with lower environmental impact.

"Technology Transfer for the Twenty-First Century" is more than just a catchy handle; it's the crux of the content you'll find at the Spring National Meeting. Transferring new technology from the R&D community to industry practitioners is the purpose of the Spring National Meeting's technical sessions. The overall focus of the meeting is about applying emerging technologies to real solutions for real problems faced on the job and in the plant.

The scope of the technical program ranges from fundamentals to some of the most sophisticated issues affecting our industry today. You'll find large blocks of related sessions on everything from the Environment, Process Safety, Plant Operations, Thermodynamics, and even the Internet. Featured Programming includes the Second International Plant Operations and Design Conference (*chaired by the South Texas Section's Vic Edwards*), the 9th Annual Ethylene Producers' Conference, the 31st Annual Loss Prevention Symposium, the Distillation Symposium, and a set of four Supra-Sessions which include an Internet Tutorial by **John Levine**, the author of "*Internet for Dummies*," and a session on Buckminsterfullerenes, or Buckeyballs, commercialization featuring Nobel Prize Winner **Richard Smalley** of Rice University.

A breakdown of the sessions by AIChE Programming Group/Area:

- Second International Plant Operations and Design Conference: 27 Sessions
- 9th Annual Ethylene Producers' Conference: 6 Sessions

- 31st Annual Loss Prevention Symposium: 7 Sessions
- Distillation Symposium: 7 Sessions
- Thermodynamics and Transport Properties: 11 Sessions
- Separations (*Other than Distillation*): 6 Sessions
- Management: 8 Sessions
- Environmental: 25 Sessions
- Computing and Systems Technology: 7 Sessions
- Pilot Plants: 2 Sessions
- Nuclear Engineering: 8 Sessions
- Fuels and Petrochemicals: 20 Sessions

As you can see, there is quite a variety of subjects from which to choose.

For those of you who want to see the program on the Internet, use your browser to go to AIChE Home Page and follow the links, or go directly to:

<http://www.aiche.org/meeting/1997/spring/sessions>

Since AIChE meetings should be more than just attending technical sessions, a plethora of plant tours, social tours and evening entertainment events have been arranged. The meeting starts with the Welcoming Reception which will be held high atop One Shell Plaza at the Plaza Club. Other evening events are dinner at Birraporetti's followed by the play "The Greeks" at the Alley Theatre and a trip down the Houston Ship Channel aboard the M/V Sam Houston with a family style seafood dinner at the Monument Inn afterwards. (*see page 9 for more details*)

In addition to the regular chemical plant tours, special arrangements have been made to tour the newly opened City of Houston Emergency Operations Center which includes a state of the art command center designed by the same firm that designed the Space Shuttle Control Room. This is a MUST tour for anybody involved with community disaster planning.

Coupled with the technical sessions is the Petrochem & Technochem Expo '97 being held on March 11-13, you have an unbeatable combination. More than 400 exhibitors will display their products and services to give you fresh ideas on how to do your job smarter. The best part is that admission to the exhibition is free. You don't need to be a registrant of the 1997 Spring National Meeting. Just come down to the George R. Brown Convention Center, fill out an exhibition registration form to get a badge, and then go in.

To register for the meeting, complete the registration forms included in this issue of *The South Texan*, and mail or telefax them to AIChE headquarters in New York City. To obtain a complete meeting program, you can call 1-800-242-4363 (*USA only; overseas call 1-212-705-8100*) or try sending an e-mail message to the AIChE xpress@aiche.org for one.

So, mark your calendars and plan to attend the 1997 Spring National Meeting, March 9-13, 1997. See ya'll there.

Dennis Griffith
Meeting Program Committee Chair

GAS UTILIZATION RESEARCH FORUM PROVIDES LATEST ADVANCES AT THE AIChE 1997 SPRING NATIONAL MEETING

Chen-Hwa Chiu of Bechtel Corporation and Douglas O. Elliot of International Process Services, Inc., have developed a block of five sessions covering a wide spectrum of design issues relating to four areas of gas utilization: (1) natural gas transported from the production area to the gas users or stored by means of liquefaction to LNG; (2) natural gas converted chemically to heavier hydrocarbon liquids; (3) subquality gas upgraded for utilization; (4) natural gas converted by partial oxidation to synthesis gas.

These sessions are co-sponsored by the Second International Plant Operations and Design Conference, the Fuels and Petrochemicals Division of the AIChE, and Area 16c, "Gas, and the Gas Utilization Research Forum," which is sponsored by a group of industrial companies and research organizations.

The topic of the first session is "Cryogenic Gas Processing in LNG Plants" which will cover all aspects of design and operation of LPG and LNG plants including risk assessment, LNG peakshaving, the optimized cascade liquefaction cycle for the baseload LNG plant, recent plant experiences of using liquid expansion turbines in place of simple Joule-Thomson expansion valves, design requirements and process variations relating to the recovery of liquefied petroleum gas (LPG) in baseload LNG plants, and heat transfer of LNG and LPG upon injection into salt caverns.

Next, there are two sessions that cover the "Fischer-Tropsch Conversion of Gas to Liquid." Among the topics to be presented are an overview of Fischer-Tropsch synthesis in selectivity control, catalyst and reactor types followed dealing with emerging natural gas conversion processes, the commercial experience in Fischer-Tropsch process of syngas from coal, and a new process utilizing auto-thermal reforming with air to produce a nitrogen-diluted synthesis gas for Fischer-Tropsch synthesis. Slurry phase Fischer-Tropsch process and the slurry phase catalyst studies will be presented along with cobalt-based and potassium promoted iron-based Fischer-Tropsch catalyst studies. Included also are presentations about Fischer-Tropsch diesel fuel and the design and

economics of a natural gas based Fischer-Tropsch plant, hydrogen production and CO₂ reforming.

The session on "Subquality Gas Upgrading" will address the most important recent advances in technology for the removal of contaminants such as hydrogen sulfide, carbon dioxide, water and nitrogen from natural gas. One of the main goals of the gas industry to foster and support the development of the efficient and new technology for the treatment and processing of natural gas. It is estimated that 30 to 40 percent of the gas reserves and gas produced are substandard and require processing before being sent to the pipeline or converted to other fuels. Improvement in the economics of gas treatment processes are, therefore, of strategic importance to the gas industry. The presentations from industry, universities, government and private institutions will cover improvements on current processes and the development of the next generation processes for upgrading natural gas.

The final session, "Gas Conversion by Partial Oxidation," contains present current research efforts aimed at improving the economics and conversion of natural gas to usable products by partial oxidation. Among the presentations are the conversion of methane to methanol and other oxygenates in a non-equilibrium plasma environment and the conversion of methane to synthesis gas using membrane reactors including using dense oxygen conducting perovskite membranes, using ionically and electronically conducting brownmillerite compounds, and studying oxygen transport membranes that do not have a perovskite structure. Finally, investigation of a new procedure for making synthesis gas containing nitrogen for ammonia manufacturing using air partial oxidation in a fluidized bed reactor will be presented.

So, plan to attend the Gas Utilization Research Forum, Sessions 26 through 30 of the Second International Plant Operations and Design Conference, to learn about these advances in gas processing technology.

Chen-Hwa Chiu

SECOND INTL PLANT OPERATIONS AND DESIGN CONFERENCE "SAFE, CLEAN, COMPETITIVE PROCESS PLANTS"

"Safe Clean, Competitive Process Plants" is the theme of the Second International Plant Operations and Design Conference. This conference targets those chemical engineers who design or operate process plants. AIChE has found that these two "important groups of chemical engineers have not been participating in AIChE meetings to the same extent as chemical engineers involved in other areas, such as research and education. The First International Plant Operations and Design Conference, which was held in Houston in the Spring of 1995, was organized by the South Texas Section of AIChE and a number of other organizations to serve our missing brethren. The primary objective of this conference is to present information with significant current or potential applications to chemical engineering practice in plant operations or design.

The theme of this conference is in harmony with the direction that the process industries are likely to follow in the 21st century. Many companies are already adopting corporate goals such as zero emissions, zero accidents, and zero occupational illnesses.

Although it may not always be possible to achieve these admirable goals, they keep striving towards facility perfection in the environmental and safety arenas.

Competitiveness shares equal importance with safety and cleanliness in the plants we envision. The process industries, already global in scope, are becoming ever more competitive. For a process plant to be economically viable in the 21st Century, it will have to be safe, clean, and competitive. Achieving these objectives will require the clever and painstaking adoption and integration of new technology into plant designs and plant operations.

The program of the Second international Plants Operations and Design Conference is broken into five major themes; *Environmental Process Safety, Computer Applications and Process Control, Operations and Maintenance, and Design/Gas Utilization.*

(Continued on Page 5)

PETROCHEM & TECHNOCHEM EXPO '97

Hundreds of premier exhibitors, Conventional and cutting edge technologies, Plus a unique, new approach to learning.

These are just a few of the reasons you will not want to miss Petrochem & Technochem Expo '97 at the George R. Brown Convention Center, Houston, March 11-13, 1997. It's two expositions in one.....and the one place you'll find everyone who's anyone in the Chemical Processing Industry.

Plan to attend and see the latest innovations from leading process plant equipment and instrumentation manufacturers. Compare the resources, test-drive the technology, and make informed decisions that will improve your business. Admission to the Expo is free. To see a full list of exhibitors and to register for free, view our web site at <http://www.aiche.org>

For a practical, functional approach to learning, check out the "Practitioners' Forum." It's a brand new, dynamic educational series where you'll learn how to integrate what you see at the show with what you do on the job. To view the full program for the Forum, and for registration fees and information, checkout our web site at <http://www.aiche.org> or call 1-800-242-4363.

ENVIRONMENTAL DIVISION SPONSORS SPECIAL SESSION ON PRODUCT STEWARDSHIP SESSION 99 • AFTERNOON • MARCH 10

Product stewardship is an emerging area of interest that concerns all practicing Chemical Engineers. It is the all encompassing Code of Responsibility that the members of the Chemical Manufacturers Association are implementing throughout the lifecycle of their products from inception, development and manufacturing to safe use and environmentally responsible disposal.

The speakers are all members of the Chemical Manufacturers Association Product Stewardship Task Group. They will be providing their expertise to show how product stewardship applies to management practices, process and product design, risk assessment, risk management, customer service and community relations.

Bill McGlasson

Editor Speaks

It's spring time again. It's time to watch nature wake up and display its finest in flowers, greenery, and blue skies! And it's time to do all those things around the house that you've put off because it was too cold. The hot summer is coming soon.

For the time that I have been writing this column, I have tried to focus on events or happenings that are reflections of what's on everyone's minds in our profession. But this time I'd like to take a moment and say "Thank you" to those members who have achieved the status of being in our Society for 50 years or more. You are the foundation of this Section and over the past years I am confident that you have marveled at the growth and accomplishments of our fellow engineers.

My wish is that I, too, will someday join your elite ranks. Again, thank you for your contributions over the years. You are remembered and appreciated.

Gary Congram

YOU'RE ON THE NOMINATING COMMITTEE

It's nearly ANNUAL AWARDS time again!

Please use this form or any reasonable facsimile to submit your nominations before April 10, 1997 to:

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Lyondell-Citgo Refining Co., Ltd

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Fax: 713 - 321-4523

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Ph: 281-544-8911

Fax: 281-544-8427

E-mail: kgande@shellus.com

Nominations are now being solicited for the following

- ☐ 1996's Distinguished Service Award (*STS Member over 35 years of age*)
- ☐ 1996's Outstanding Young Member (*STS Member under 35 years of age*)
- ☐ 1996's Best Fundamental Paper (*STS Member*)
- ☐ 1996's Best Applied Paper (*STS Member*)

Nominee's Address & Phone No.

Your Address & Phone No.

Please: Only ONE Nomination per form! Thanks!!!

CONFERENCE DESIGN *(Continued from page 4)*

The sessions in Computer Applications and Process Control emphasize case histories and practical applications, and they conclude with a series of software demonstrations.

The Operations and Maintenance sessions comprise diverse, but timely and important topics including solids handling, alliance strategies and process agility.

The Environmental sessions were organized with major participation by the Texas Natural Resources Conservation Commission and other regulatory agencies. There is a regulatory focus, but with a view towards not just compliance, but with improving the regulations.

The Process Safety organizers and speakers are among the leaders of the field. The Process Safety sessions address several topics of major current interest including experiences with the US EPA Risk Management Rule and the effects of reengineering on process plant safety.

The Design and Gas Utilization sessions of the Second International Plant Operations and Design Conference are described in another article in this newsletter.

You should also be sure to purchase a copy of the preprints from this conference. The preprints will be available at the meeting for \$80, and will include over 600 pages of papers selected from the thirty sessions and approximately 150 speakers who will take part in this conference.

*Vic Edwards
Conference Chair*



AMERICAN INSTITUTE OF CHEMICAL ENGINEERS 1997 SPRING NATIONAL MEETING

CODE II
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GEORGE R. BROWN CONVENTION CENTER, HOUSTON, TX • MARCH 9-13, 1997
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ATTENTION NONMEMBERS: 1st year membership included with full meeting registration. (Sign on next page)

ATTENDEE INFORMATION: Complete Both Sides of this Form. Please Print Clearly! **Member #** _____

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MAILING ADDRESS <input type="checkbox"/> HOME <input type="checkbox"/> OFFICE																								

CITY															STATE					ZIP				

TELEPHONE										FAX									

GUEST FIRST NAME										INITIAL	LAST NAME									

PRIMARY AREA OF INTEREST (Check one) ☐ Industry ☐ Government ☐ Academia ☐ Student ☐ Other

TOPICAL CONFERENCES—I plan to attend sessions in the following conferences (no additional charge):

- | | |
|--|---|
| <input type="checkbox"/> Second International Plant Operations and Design Conference | <input type="checkbox"/> Loss Prevention Symposium |
| <input type="checkbox"/> Ethylene Producers' Conference | <input type="checkbox"/> Distillation Symposium |
| | <input type="checkbox"/> Research and New Technology Series |

Check one ☐ in each category below that most nearly fits your situation.

Classification of Business

- A ☐ Chem. & Allied Products
B ☐ Petrochemical
C ☐ Petroleum Refining
D ☐ Paper, Pulp & Wood
E ☐ Plastics
F ☐ Materials (Steel, Aluminum, Glass)
G ☐ Engrng. Design
H ☐ Instrumentation

- I ☐ Fabrication
J ☐ Equipment
K ☐ Consulting
L ☐ Financial
M ☐ Association
N ☐ Government
O ☐ Education
P ☐ Miscellaneous

Classification by Function

- AA ☐ Administration
BB ☐ Analyst
CC ☐ Chemical Engrng.
DD ☐ Design Engrng.
EE ☐ Process Engrng.
FF ☐ Engrng Research
GG ☐ Engrng. Develop.
HH ☐ Maintenance

- II ☐ Plant Mgr.
JJ ☐ Systems Mgr.
KK ☐ Production
LL ☐ Purchasing
MM ☐ Technician
NN ☐ Consultant
OO ☐ Marketing
PP ☐ Educational
QQ ☐ Other

REGISTRATION FEES

	EARLY Postmarked thru Feb. 10		STANDARD Postmarked thru March 3		ON-SITE	
	Member	Nonmember	Member	Nonmember	Member	Nonmember
<input type="checkbox"/> Full Meeting	\$360	\$475	\$410	\$525	\$435	\$550
<input type="checkbox"/> One Day Only*	\$245	\$310	\$270	\$335	\$280	\$345
<input type="checkbox"/> Graduate Student/Full Meeting	\$180	\$240	\$205	\$265	\$215	\$275
<input type="checkbox"/> Graduate Student/One Day	\$125	\$155	\$135	\$165	\$140	\$170
<input type="checkbox"/> Undergraduate Student/Full Meeting	\$ 20	\$ 40	\$ 20	\$ 40	\$ 20	\$ 40
<input type="checkbox"/> Unemployed Members***	\$ 20		\$ 20		\$ 20	
<input type="checkbox"/> Guest/Full Meeting (not a business associate)	\$ 30	\$ 30	\$ 30	\$ 30	\$ 30	\$ 30
<input type="checkbox"/> Guest/One Day*	\$ 10	\$ 10	\$ 10	\$ 10	\$ 10	\$ 10

***ONE DAY ATTENDEES**—Check attendance day: ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday

I am a: ☐ Founders Award Recipient ☐ 50-Year Member ☐ Emeritus ☐ Fellow

** Emeritus, 50-year members, and Founders Award recipients receive free registration. Family Situation dues members receive a 75% discount on full meeting registration fees. (Guests must pay appropriate fee.)

*** Members who are listed as unemployed in AIChE records.

OTHER MEMBER RATES: ☐ AIME ☐ ASCE ☐ ASME ☐ IEEE ☐ IEA (Australia) ☐ Gas Utilization Research Forum

<input type="checkbox"/> Full Meeting	\$360	\$410	\$435
<input type="checkbox"/> One Day Only	\$245	\$270	\$280

CONTINUING EDUCATION REGISTRATION: : March 3–21. Please register me for the following courses:

Title(s): _____ Fee(s) \$ _____
 _____ Less Discount (if applicable)* \$ _____
 _____ Total CE Fees \$ _____

* If you are registering for any Continuing Education course(s), and prepay by February 10, deduct \$50 from the fee(s).
 Continuing Education Fees must be paid in advance. For technical questions on CE courses, please call 1-212-705-7528.

TICKETED EVENTS: Space for some events is limited and tickets will be sold on a first-come, first-served basis. Any of the events may be cancelled without prior notice; events will only be held if ticket sales indicate sufficient interest. Tickets will only be sold to registrants.

DATE	ITEM #	DESCRIPTION	# OF TICKETS	PRICE	TOTAL
Monday, March 10	<input type="checkbox"/> 101	Quantum Chemical Company	_____	\$14	_____
	<input type="checkbox"/> 102	Harris County Heritage Society	_____	\$14	_____
	<input type="checkbox"/> 103	U. of Texas Health Science Center	_____	\$14	_____
	<input type="checkbox"/> 104	Microbrewery Dinner and Tour	_____	\$26	_____
	<input type="checkbox"/> 105	F&PD Awards Dinner	_____	\$35	_____
	<input type="checkbox"/> 106	Environmental Division Award Dinner	_____	\$35	_____
	<input type="checkbox"/> 107	Safety and Health Division Dinner	_____	\$35	_____
Tuesday, March 11	<input type="checkbox"/> 201	Fellows' Breakfast	_____	\$12	_____
	<input type="checkbox"/> 202	Shell Westhollow Technology Center	_____	\$14	_____
	<input type="checkbox"/> 203	Blue Bell Creamery Tour	_____	\$14	_____
	<input type="checkbox"/> 204	Greater Houston Trans. & Emergency Center	_____	\$14	_____
	<input type="checkbox"/> 205	Alley Theatre "The Greeks" with Dinner	_____	\$42	_____
Wednesday, March 12	<input type="checkbox"/> 301	Phillips Chemical Co.	_____	\$14	_____
	<input type="checkbox"/> 302	Bayou Bend Collection and Gardens	_____	\$22	_____
	<input type="checkbox"/> 303	Houston Ship Channel Cruise and Dinner	_____	\$37	_____
			TOTAL		_____

PREPRINTS / PROCEEDINGS**Second International Plant Operations and Design Conference Preprints***

☐ Vol. I Environmental \$80 ☐ Vol. III Gas Utilization \$80
☐ Vol. II Process Safety \$80 ☐ Vol. IV Computer Applications & Process Control \$80

* If you are buying more than one volume, each additional volume is \$72 (a 10% discount)

☐ Ethylene Producers' Conference Preprints (Price includes post Conference Proceedings) \$95
☐ Loss Prevention Symposium Proceedings \$60

SUMMARY OF CHARGES

Full payment of fees must accompany
 this registration form.

Total Registration fees (from front) \$ _____
 Total Ticketed Events fees \$ _____
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DATE _____

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Checks not meeting above requirements, please add \$45 to cover processing fees. Mail payment with completed registration form to:

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CANCELLATION POLICY—Cancellations received in writing to AICHE, postmarked no later than February 24, will receive a full refund, less a \$50 processing charge.

Mail or Fax (NOT BOTH)
AIChE Housing Bureau
801 Congress
Houston, TX 77002
Fax # 713/227-6331

American Institute of Chemical Engineers

Spring National Meeting

March 9 - 13, 1997
Houston, Texas

PLEASE TYPE OR PRINT AND COMPLETE ALL INFORMATION.

HOUSING REQUEST FORMS: Fax or mail (not both). Telephone reservations will not be accepted. A 1st night deposit for each room equal to 1 night room rate plus 15% tax must accompany all housing requests. Deposits will be accepted in the form of check, money order or credit card. Make checks and money orders payable to the Housing Bureau. For information you may call 1/800/365-7575 or 713/227-3100 ext. 676.

CHANGES/CANCELLATIONS: Make changes and cancellations directly with the Housing Bureau up to 72 hours prior to arrival. After that time make changes and cancellations directly with the hotel. Cancellations may result in forfeiture of your deposit.

DEADLINE: February 5, 1997. Requests received after the deadline could possibly be assigned to a hotel not in the housing package.

ACCOMMODATIONS: Select three hotels from the list and enter appropriate code letters in priority order in boxes provided under hotel information. In the event none of your choices are available, every effort will be made to assign comparable housing based on your first choice. Bed types are not guaranteed and are assigned on a first come first serve basis.

ROOM CONFIRMATIONS: Upon completion of your reservation request the Housing Bureau will mail or fax a Hotel Reservation Acknowledgment to the Registrant only. If you wish to receive a confirmation number you need to contact the Hotel stated on the Acknowledgment.

CONFERENCE REGISTRATION: Registration for the conference is not accepted by the Housing Bureau.

HOTEL INFORMATION:

		Rates
Code	Hotel Name	Sgl/DbI/Tri/Quad
DBH	Doubletree @ Allen Center	\$117/129/141/153
FSDT	Four Seasons Hotel Houston	\$130/\$150
	Executive Suite	\$160/\$180
	Suites P+1	\$500 - \$900
HR	Hyatt Regency Houston	\$117/129/156/174
	Suites P+1	\$350 - \$475
	Suites P+2	\$400 - \$550

*Rates do not include applicable 15% tax.

REGISTRANT: Person to whom acknowledgment will be mailed.

Name: _____

Organization/Company: _____

Street Address or P.O. Box: _____

City: _____

State: _____ Zip Code: _____

Phone Number: _____

Fax Number: _____

DEPOSIT: (Charge to credit card ☐) or (Check or M.O. enclosed ☐)

AMEX ☐ Visa ☐ Master Card ☐ Diners ☐ Other ☐

Card Number: _____

Expiration Date: _____

Signature: _____

ROOM TYPE: Check one. Duplicate form for more than 1 room.

- ☐ Single (1 person 1 Bed)
☐ Double (2 persons 1 Bed)
☐ Triple (3 persons 2 Beds)
☐ Quad (4 persons 2 Beds)
☐ Suite P+1 (1 bedroom + Parlor)
☐ Suite P+2 (2 Bedroom + Parlor)

OCCUPANTS NAMES: List all individuals occupying room.

1. _____

2. _____

3. _____

4. _____

ARRIVAL DATE: _____

DEPARTURE DATE: _____

Enter Code in order of hotel preference:

☐☐☐☐

1st Choice

☐☐☐☐

2nd Choice

☐☐☐☐

3rd Choice



1997 EVENING EVENTS

SUNDAY MARCH 9 WELCOMING RECEPTION

THE PLAZA CLUB ONE SHELL PLAZA 6:00 to 7:30 p.m.

Plan on attending at the Plaza Club located at One Shell Plaza for a delicious variety of appetizers, entrees, and hors d'oeuvres, along with a cash bar for cocktails and other beverages. This will be an exciting affair as the club offers a spacious, exceptional view overlooking downtown Houston's historic Theatre and Park District. In a setting of comfortable elegance the 49th floor vantage point offers a panoramic view of the dramatic Houston skyline. Sleekly architectural by day, the skyline turns into a glittering jeweled backdrop at night, creating the perfect venue. This event is sponsored by local area companies and Petrochemical Exposition exhibitors. Please show your appreciation by joining us for this occasion.

MONDAY MARCH 10 MICROBREWERY DINNER TOUR

ROCK BOTTOM BREWERY GALLERIA AREA 6:00 to 9:30 p.m.

See how the application of science, engineering and foods are utilized to make one of the oldest brewed beverages. A discussion and tour of a microbrewery with the Brewmaster as our host will be given at a fabulous new brewery and restaurant on the glamorous west side of Houston. Following this will be a limited sample tasting of the current brews to tempt the palate. Included with the tour, a great meal will await you there while providing you the opportunity to avail oneself of the local brews sold if you so desire.

TUESDAY MARCH 11 IN-LINE SKATE DOWNTOWN 7:30 p.m.

In-line skating is the fastest growing sport in the country today. Pack up your skates (in-lines or quads) and bring them with you. We will meet outside the Hyatt Hotel at Louisiana and Polk. From there we will skate to join up with other urban skaters on this regular skate night in, around, and 'near' downtown Houston. A typical night could cover 10-15 miles to one or more local night clubs with live music and dancing. Experience a part of Houston many will never know! Note: This is for experienced skaters, you MUST KNOW HOW TO STOP. In case of inclement weather, the event may be canceled.

TUESDAY MARCH 11 ALLEY THEATRE & DINNER 5:45 to 10 p.m.

This event is almost a tradition in Houston. Come join us for the cultural highlight of the season: the classical play "The Greeks" in our Special Tony Award winning Alley Theatre. Under the artistic director Gregory Boyd's lead, this play will assemble the nine classical texts that tell the story of ancient Greece as the centerpiece event for the entire season in one single drama adaptation. It is an epic of adventure, love, murder, revenge and rescue drawn from the plays by Euripides, Aeschylus, Sophocles and Homer. Preceding the play, will be a dinner buffet at Birraporetti's, an Italian restaurant, next door to the Theatre. The fare will be tasty and filling.

WEDNESDAY MARCH 12 HOUSTON SHIP CHANNEL CRUISE with MONUMENT INN FEAST 5:45 to 10:00 p.m.

Come see the world's largest complex of refinery and petrochemical plants while enjoying a twilight trip down the Houston Ship Channel on the M/V Sam Houston. The ship channel with the Port of Houston is the largest port in the nation for foreign tonnage and is directly responsible for more than 28,000 jobs and over a 3 billion dollar impact on the Houston economy. The list of companies that are located on the channel reads like a Who's Who of Chemical Process Industries. The trip begins at the Turning Basin and goes all the way down to the San Jacinto Battleground Park where the Battleship Texas and the Monument are located. Narration will be provided along the trip on the various industries, facilities and products. Then, we will shuttle briefly to the Monument Inn for a fabulous seafood and chicken feast while continuing to enjoy the passing maritime traffic through the large dining room windows looking onto the Ship Channel.

1997 DAYTIME EVENTS

University and Plant Tours

MONDAY MARCH 10 QUANTUM CHEMICAL CO. LaPorte 12:00 p.m. Located on the Houston Ship Channel, 20 miles east of downtown

Houston, Quantum Chemical Co. LaPorte Complex is their largest operating facility. The production units include Ethylene, Methanol, Acetic Acid, Vinyl Acetate, HDPE, and LDPE. The tour includes a bus ride of the Complex and a walking tour of the ethylene control room.

MONDAY MARCH 10 Univ. of Texas Health Science Center and the Cox Laboratory for Biomedical Engineering at Rice University 1:00-5:00 p.m.

The tour group will be split in half with one half viewing the Life Flight Helicopter Operations, an air ambulance system for transporting patients to and from Hermann Hospital. The other half will tour the Positron Diagnostic and Research Center which utilizes a PET Scanner and a Cyclotron among its high tech tools. The group will combine then to tour the Dept. of Neurobiology and Anatomy at the UT Medical School. Next the tour will see the Cox Lab for Biomedical Engineering at Rice. Current areas of research include tissue engineering, vascular biology engineering, and fundamental studies of receptor-mediated cell adhesion and migration. Also highlighted will be the G. R. Brown Hall with its video microscopy and digital imaging, tissue culture, and flow cytometry.

TUESDAY MARCH 11 Shell Westhollow Tech. Ctr. 8:00-12:00 p.m.

The Center is one of the largest and best equipped industrial technology installations in the world covering 200 acres with 35 bldgs. It provides over 1 million square feet of lab space. The tour will include the polymer applications lab, micro-reactor, the facility for heavy fuels combustion, oil product testing, and extreme environment material and corrosion testing area.

TUESDAY MARCH 11 Greater Houston Transportation and Emergency Management Ctr. at Houston Transtar 1:00-5:00 p.m.

The 52,000 square foot facility is the first high tech emergency and transportation management center. It coordinates the City of Houston, Harris County, seven Local Emergency Planning Committees and others. The tour will focus on the Harris Co. emergency response program. The state-of-the-art control monitoring room was designed by the same contractor as the new NASA Mission Control Room.

WEDNESDAY MARCH 12 Phillips Chemical Co. Houston Complex 8:00 - 12:00 p.m.

Phillips Chemical Co. is a highly integrated chemicals producer with the manufacture of NGL feedstocks, olefins, polyolefins, resins, and butadiene-styrene copolymers. The tour will include a bus ride with stops in a PE plant control room and the HCC QA Lab. Lunch will be provided.

1997 DAYTIME EVENTS

Guest Program

MONDAY MARCH 10 Harris Co. Heritage Society with Texas History and Lunch at 'Melange' 10:00 a.m. to 3 p.m.

Take a guided tour through Texas history with the homes built as early as 1836. The 1850 Rice-Cherry House is one of the highlights with its antebellum urban elite style on the Texas Gulf Coast. A light lunch at the Melange along with free time to tour the museum and homes not on the guided tour.

TUESDAY MARCH 11 Blue Bell Creamery and 'Must Be Heaven' Lunch 9:00 am to 5:00 p.m.

Enjoy a two hour bus ride through the rolling hills and scenic wildflower fields to the Blue Bell Creamery tour of the ice cream facility with free samples. Visit the Country store and then head to historic downtown Brenham for lunch and roam the local craft and antique shops.

WEDNESDAY MARCH 12 Bayou Bend Collection and Gardens with 'Otto's Barbeque' 9:00 a.m. to 3 p.m.

Take a guided tour of the Bayou Bend Mansion and its extensive collection of art and antiques. The collection is in 28 rooms with over 4800 objects from 1620 to 1870. Then explore the magnificent gardens, 14 acres worth, at your own pace with particular attention to the azaleas which should be in bloom. Next have barbecue lunch to round out your day.

SHARPEN YOUR FINANCIAL EDGE

Investment Seminars at Spring Meeting

As part of our ongoing effort to bring valuable programs to our members, AIChE will offer several investment focused presentations at the Spring National Meeting in Houston. The cornerstone of these presentations will be the AIChE Mutual Fund Program -- a unique money-saving benefit not available to most other investors. Through the AIChE Mutual Fund Program members may purchase a variety of Putnam mutual funds without the initial sales charges or redemption fees typically associated with these investments.

"This program was designed to further address members' retirement and financial planning concerns. It offers funds which feature active professional money management, extensively researched holdings, and a seasoned approach to market events," noted **Diana McCauley**, AIChE's Director of Member Services.

Representatives from Chartwell Consulting, AIChE's newly selected asset management consultants, will give investment management presentations and answer member investment questions. "Now that AIChE offers a portfolio of sound financial options for member investment, we felt it was important to bring the next level of investment information to our members," said McCauley. In addition, Chartwell will provide members with on-going investment advice in a quarterly newsletter which spotlights Putnam Mutual Funds.

Along with Chartwell, a representative from the AIChE Mutual Fund Program will be available to answer member questions on this program and discuss the many investment options available. All members registered for the meeting may attend the presentations.

Sharpen Your Financial Edge: A Spotlight on AIChE's New Mutual Fund Program

Sunday, March 9 2:00 p.m., 3:00 p.m., and 4:00 p.m.

Monday, March 10 1:00 p.m., 2:00 p.m. and 3:00 p.m.

Room 309A

George R. Brown Convention Center • 1997 AIChE Spring National Meeting • Houston, Texas

I-45 EAST REGIONAL MEETING IN MARCH IS CANCELLED

Because of all the activities associated with the Spring National Meeting, the Regional Meeting for those living or working East of I-45 will not be held this month. We'll be back on schedule in April and May. Watch for details in the next newsletter.

In the mean time - be sure to take advantage of the *outstanding* biennial events described in this mailing, *i.e.*, the free Welcoming Party Sunday night, the exhibits at the PETROCHEM & TECHNOCHEM '97, the Technical Sessions including the 2nd International Plant Operations & Design Conference, 9th Annual Ethylene Producers' Conference, 31st Annual Loss Prevention Symposium, NEW Technology Sessions, etc., plus the Professional Development Poster Sessions and Workshops. **There's something for everyone. SEE YOU THERE!**

Bill Stadig

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For More Information: Call 1-800-982-4243. In the Washington, DC, area call (202) 457-7711.

A customer service representative will be happy to send you information, with no commitment on your part. Written requests can be mailed to the AIChE Mutual Fund Center, Marsh & McLennan Securities Corporation, 1255 23rd Street, NW, Suite 300, Washington, DC 20037.

The mutual funds offered are distributed by Marsh & McLennan Securities Corporation.

Please read the fund prospectuses carefully before investing or sending money. Mutual funds are not FDIC insured and are not guaranteed by the federal government or any other agency or association. There is no guarantee the funds will achieve their stated goals or investment objectives. Investments in mutual funds will fluctuate and your investment may be worth more or less when redeemed.



American Institute of Chemical Engineers



Don't miss this opportunity!
Houston Chemical Engineering Career Fair
George R. Brown Convention Center • March 11 & 12

To register for the Spring National Meeting,
or to request a catalog on the Institute's employment
and career offerings, contact the AIChExpress Service Center:

1-800-242-4363 • E-mail: xpress@aiche.org

The Institute's revised Job Fair will make its 1997 debut on March 11 and 12 in Houston. The Career Fair, which seeks to match qualified engineers with employers will be held in conjunction with the Spring National Meeting / Petrochem at the George R. Brown Convention Center.

Engineers who wish to participate in the Career Fair event may register by one of three ways:

1. Registering online at <http://www.aiche.org/fair>
 2. Sending their resumes by e-mail to register@aiiche.org (ASCII text)
 3. Faxing their resumes to (757) 490-7448 - Att: AIChE DM
- Engineers unable to attend the fair may also submit resumes to the above selections. Fair is free and no Spring National Meeting registration is required.

- Engineers who wish to participate in person at the Fair must register for both the Fair (*which is free*) and the Spring National Meeting. The pre-registration deadline for both events is March 3; after that date, all registration will take place at the meeting.

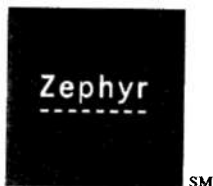
Organizations interested in recruiting targeted candidates at this event may call **Henry Roman** at 1-800-288-2890, extension 2441 for more information on recruiting, including online access to candidates before the event.

**For online information about the Career Fair
visit <http://www.aiche.org/fair>**

In addition to the fair, there are several other career/professional development services being offered at the meeting. On March 10, the Institute's Professional Development committee, will sponsor a workshop on developing effective resumes, writing cover letters, and interviewing tips, while a Peer Help Employment Center will be held on March 11.

On March 10 and 11 the South Texas Local Section will feature poster sessions on employment issues and a computer demonstration on how the Section assists its unemployed members.

When the outcome has to be CERTAIN.



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AICHE YOUNG MEMBERS

GO to strange parts of East Texas
MEET young chemical engineers from other companies, & **SHOOT THEM!**

PAINTBALL excursion

DAY: Saturday **DATE:** April 5, 1997

TIME: 8:00 A.M. - 3:00 P.M.

LOCATION: We will meet at a central location and drive to the paintball range.

PLEASE RSVP: ANDREW WILSON

Before Friday April 4th so we know how many to expect.
This event is open to any interested members, but is targeted at the young at heart. You don't need to be a member to attend this event so invite your friends. Everyone is welcome.

Contact

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Advanced Hazard Consequence Modeling

For those who may be performing, using, or reviewing consequence modeling, this course describes the underlying principles used in the estimation of source terms and the quantification of dispersion, fire, and explosion hazards.

April 14-18, 1997 • Houston • \$1,500

Hazard Assessment Clinic for EPA's RMP Rule

Hands-on training for conducting offsite consequence analysis. This course covers scenario selection, use of EPA's guidance, and computer modeling. Also includes guidance for documenting a hazard assessment.

April 24-25, 1997 • Houston • \$1,095

For more information contact Pat Warren
of the EHS Training Institute at
617.498.6767

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