



# The South Texan

VOLUME 103 NUMBER 8

APRIL 2003

## MONTHLY MEETING • APRIL 3, 2003



Speaker: **Dr. Dianne Dorland**  
National AIChE President  
Dean, College of Engineering  
Rowan University  
Glassboro, NJ, 2003

Subject: "The Challenge of Change in  
Chemical Engineering"

Dr. Dianne Dorland will identify some of the drivers for change in today's chemical engineering profession, and then discuss AIChE's strategic plan for evolution and growth. She will address key areas of activity such as sustainability and engineering in various "bio" areas. Included in the discussion will be a synopsis of recent AIChE developments from the 2003 Spring Meeting in New Orleans.

Dr. Dianne Dorland is Dean of the College of Engineering at Rowan University, Glassboro, NJ, which she joined in 2000. Dianne Dorland is also the 2003 President of the American Institute of Chemical Engineers (AIChE), where she is also a Fellow. Prior to her current affiliation, Dianne Dorland headed the Department of Chemical Engineering at the University of Minnesota-Duluth from 1990-2000, which she joined in 1986. Dorland worked extensively with industry and government agencies throughout the 90s, serving as Chair of the Toxics Technical Advisory Committee for the St. Louis Watershed Remedial Action Plan (MN), the Great Lakes Initiative Advisory Committee, Minnesota Pollution Control Agency, the Minnesota Department of Natural Resources Taconite Enhancement Committee, and the Governors Task Force on Mining and Minerals for Northeastern Minnesota.

Dianne Dorland's industrial experience started with Union Carbide in 1970, after receiving her B.S. and M.S. in chemical engineering from the South Dakota School of Mines and Technology and includes DuPont and the U.S. Department of Energy. Dorland earned her Ph.D. in chemical engineering from West Virginia University in 1985. A licensed professional engineer in New Jersey and West Virginia, she is also active in the American Society for Engineering Education (ASEE).

### Workshop Announcements

Refer to pages 3-7 for detailed workshop topic and speaker information. Check the room assignments in the Hotel Lobby to join the group that interests you.

#### Joint Process Engineering / Plant Operations & CAST

*Spring Distillation Symposium*  
see pages 4-7

#### Government Interaction Committee

Topic: "Texas P.E. Sunset Bill Comments"

Chair: Dennis Griffith, Granherne Inc.

#### Process Safety Management

Topic: "Automated Tools to Quantitatively  
Perform Security Vulnerability  
Assessments (SVAs)"

Speaker: Ms. Rika Krause Jasek, Manager  
Chemical Division, ARES Corp.  
Houston, Texas

### "STUDENT NIGHT"

April 3, 2003

All Juniors, Seniors and Graduate Students from the four STS Area Universities are invited for FREE DINNER and ONE BEVERAGE, plus an opportunity to interface with Chemical / Engineering Opportunities (CEO) staff.

### How to Stay in Touch with South Texas Section

#### Website:

<http://www.sts-aiche.org>

#### Newsletter Access:

- 1) Snail Mail to all registered STS members - one week before meeting +/- one week.
- 2) Website at [sts-aiche.org](http://www.sts-aiche.org) - click on Newsletter or Newsletter Archives - accessible mid-month, before meeting.
- 3) E-Mail - enroll at the Topica prompt at the bottom of the STS home page - includes URL to current Newsletter, accessible mid-month before meeting.

#### Workshops and Dinner Meeting Topics, Speakers, Synopses, and Bios:

About a week after meeting, speakers and topics appear on the website home page for the next month's meeting. Navigation keys home on detailed synopses and bios for each workshop or dinner meeting presentations.

### Meeting Location

**RADISSON HOTEL ASTRODOME**

(Kirby at South Loop)

SYMPOSIUM-LATE SIGN-UP /START (\$10) .... 3:30-4:00p.m.  
WORKSHOP(NO FEES - NO RSVP)..... 5:30-6:30 p.m.  
EXECUTIVE COMMITTEE ..... 5:00-6:00 p.m.  
SOCIAL PERIOD ..... 6:00-7:00 p.m.  
DINNER ..... 7:00-7:45 p.m.  
PRICE .. \$ 22.00 with reservation • 24.00 without reservation  
..... Students and Unemployed 1/2 price  
MEETING /SPEAKER ..... 7:30-8:30 p.m.  
AUTO - R.S.V.P. By 4:00 p.m., Tuesday, April 1, 2003  
Call (713) 295 -4847  
Make reservation using the STS web site: [www.sts-aiche.org](http://www.sts-aiche.org)

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### ADDRESS CORRECTIONS

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## From the Chairman

Dave Mitchell



April is the kindest month or the cruelest month. It depends on whether you believe Geoffrey Chaucer (Canterbury Tales) or TS Eliot (The Wasteland). For the South Texas Section, it should be a great month. Dr Richard Willson is helping us invite the upper classmen and graduate students of our 4 area colleges for this month's meeting.

This should be a good meeting for everybody. Jim Morris has organized a mini-seminar on distillation (4-6pm). Try to attend and get the latest from two nationally recognized experts. Jim Murphy will give a few minutes talk (at 6pm) on job finding for those interested.

I am especially asking our younger members to be present for the social period. The students would rather talk to you than to those of us who have "gotten older".

One final bonus reason for attending will be our speaker, Dr.Dianne Dorland. Her topic is "The Challenge of Change in Chemical Engineering." Dianne is not only the 2003 National President of AIChE, she is also a professor and Dean of Engineering at Rowan College, with considerable experience relating to students.

## From the Editor

Jim Morris

The January 2003 issue of the Newsletter "Flowsheet" of the Northern California Section of AIChE is available on line at <http://www.aiche-norcal.org/flowsheet.html>. This edition is interesting because of the Professional Engineering legislation being proposed after a study of education and overlap in disciplines done in California by the Department of Consumer Affairs of the State of California. Apparently the report, which is available at the URL on the first page of Flowsheet, has swayed legislation (not final) to broaden the practice of all disciplines of engineering, creating more opportunity (and more competition) for chemical engineering. Civil Engineering had the lock in California, with one-way license to practice five other disciplines. The Executive Summary of the DCA report is a worthwhile read, as it compares practices in five or six states with California. I don't believe Texas was included, so this may be a good addition to our GIC webpages.

Bob Katin, who spearheaded the effort to have the California DCA study done to influence California PE Sunset Legislation, also heads a program called "KeepUs," which is an acronym for "Keep Engineers Employed to Provide Uninterrupted Safety." While this is a worthwhile program, it focuses on only one of many reasons why the US should keep engineers employed. If any of you watch "The District", the 15 March program was on why potholes should be filled, because it saves expenditures in lawsuits, damages to vehicles and people, and actually improves an ailing budget, as the savings for each \$2000 pothole filled is \$12000 saved in damages caused by the pothole. Similarly, engineers contribute well in excess of their annual salary in savings to their employers.

## Workshops Announcements – detailed information

### Process Safety Management

Speaker:  
Ms. Rika Krause Jasek  
Manager, Chemical Division  
ARES Corp.  
Houston, Texas

Subject:  
“Automated Tools to  
Quantitatively Perform  
Security Vulnerability  
Assessments (SVAs)”

Currently legislation is being proposed to require the chemical industry to perform security vulnerability assessments (SVAs). When this legislation passes, chemical companies will have to apply resources to meet the new SVA requirements. While requirements will likely be of qualitative nature, quantitative tools can assist management in most effectively allocating limited resources and defending to regulators the rationale of how those resources were applied.

The talk discusses approaches to identifying physical security inadequacies for potential targets of terrorism (e.g. chemical or nuclear plants, airports, military bases). In addition, the AVERT software will be demonstrated. AVERT is used to assess the adequacy of a site's security in a quantifiable manner, find potential vulnerabilities, and determine the most cost efficient security

enhancements. We will discuss the modeling involved in AVERT and some applications.

Rika Krause Jasek received a Precision Engineering diploma from Wilhelmshaven, Germany, and a BS in Chemical Engineering from Oklahoma State University, Stillwater, OK. She is a licensed professional engineer in Texas. Rika started her career working for a major chemical manufacturing company and is currently the manager of the Chemical Division of ARES, an engineering risk management firm, in the Houston office.

Contact:  
Jack Chosnek  
(281) 538-0220  
E-Mail: JC@knowledge1.net

### Government Interaction Committee

Subject:  
*Texas P.E. Sunset Bill  
Comments*

Chair:  
Dennis Griffith  
Granherne Inc.

The STS AIChE GIC will compile comments on the Texas Professional Engineer Sunset bills, HB1789 by Representative Warren Chism and SB277 by Senator Rodney Ellis. Text for both bills can be downloaded from the Texas Legislature Online Web site:

<http://www.capitol.state.tx.us/>

Simply enter the entire bill number (HB1789 or SB277) in the Quick Bill Status box and follow the links to get the text.

These bills contain a lot of legislation that will affect Chemical Engineers in our jobs. Included in the bills are provisions concerning the use of the term “engineer” on business cards, requirements for continuing education, complaint

procedures, licensing requirements, and the fees that the P.E. Board charges.

If you are unable to attend the meeting and want us to include your comments, please e mail or fax them to me at the e mail address or fax number below.

Please check the room assignments in the Radisson Hotel Astrodome's lobby and feel free to drop in and join us.

Contact: Dennis Griffith,  
Granherne Inc. a Halliburton Company  
Phone 281-575-4582  
Fax 281-575-4321  
E-Mail: Dennis.Griffith@Granherne.com

### Spring Distillation Symposium see pages 4-7

#### Joint Process Engineering/Plant Operations

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JOINT PROCESS ENGINEERING / PLANT OPERATIONS  
AND CAST DISTILLATION SYMPOSIUM**



AMERICAN INSTITUTE OF  
CHEMICAL ENGINEERS



The South Texas Section of the  
American Institute of Chemical Engineers

Will Be Presenting

**Spring Distillation Symposium**

**Radisson Hotel Astrodome • Thursday, April 3, 2003 • Starts: 4:00 pm.**

**Featuring Mr. Henry Z. Kister, Fluor Daniel,  
and**

**Dr. John Kunesh, Vice-Chair, Separations Division of AIChE**

***Symposium Details:***

The Distillation Symposium is a joint effort of the Process Engineering / Plant Operations and CAST Workshop Groups. The symposium will start in advance of the usual 5:30 PM Monthly Meeting Workshop to hold two presentations by nationally recognized distillation professionals Mr. Henry Z. Kister and Dr. John Kunesh. To round out the symposium, Drs. Kenneth R. Cox and Oliver Wahnschafft will cover advances in Vapor-Liquid Equilibrium (VLE) and Distillation Simulation. Dr. Cox teaches Separations at Rice University, and has seventeen years of industrial experience at Shell Development Co. Dr. Wahnschafft is the Technology Manager, Chemicals and Petrochemicals for AspenTech, and is also a Visiting Professorial Fellow University of Manchester Institute of Technology (UMIST) Manchester, UK.

A contribution of \$10 will be collected to defray expenses for the symposium. Refreshments will be provided. The 3 April 2003 Monthly Meeting will also be Student Night, and students (and their professors) at our local universities are invited without contribution.

In addition to the presentations by Mr. Kister, Dr. Kunesh, and Drs. Cox and Wahnschafft, there will be a book signing by Mr. Kister and table top displays by many of the fractionation equipment and software suppliers. Details will be added as developed. Before April 2, place your reservation/inquiry by e-mail with Jim Morris ([ejmorris@vonl.com](mailto:ejmorris@vonl.com), 281-358-7986) or Shane Tierling ([shane.tierling@halliburton.com](mailto:shane.tierling@halliburton.com), 713-753-3692). On-the-spot registrations will start at 3:30 PM on 3 April 2003. Table top displays will be set up at 3:00 PM. We expect seating for 120. A drawing of business cards will be used to select the winner of the door prize, a matched set of autographed copies of "Distillation Design" and "Distillation Operations" by Mr. Henry Z. Kister.

For an abstract and biography of Mr. Henry Kister's presentation, [click here](#). For an abstract and biography of Dr. John Kunesh's presentation, [click here](#). Abstracts and bios for Drs. Cox and Wahnschafft's presentation can be accessed [here](#). The corporate sponsors and table top exhibitors are shown on a separate page of logos found at this prompt.

**Special Guests**

**Mr. Henry Z. Kister**

Director, Fractionation Technology  
Fluor Daniel

Noted Author of "Distillation Operations"

**Dr. John Kunesh**

Vice-Chair, Separations Division of  
AIChE

Retired Technical Director, FRI  
and "Distillation Design"

For More Information & Registration, e-mail:

**Jim Morris**, [ejmorris@vonl.com](mailto:ejmorris@vonl.com) or **Shane Tierling**, [shane.tierling@halliburton.com](mailto:shane.tierling@halliburton.com)

## **Mr. Henry Z. Kister**

Director, Fractionation Technology,  
Fluor Daniel, A Fluor Company  
Aliso Viejo, California

### **“WHAT CAUSED TOWER MALFUNCTIONS IN THE LAST 50 YEARS?”**

Nine hundred case histories of malfunctioning towers reported over the last 50 years were surveyed and analyzed. Our analysis shows rapid growth in the number of malfunctions with no signs of decline. Plugging, especially of tray active areas, packing and distributors, tops the malfunctions list. Coking (refinery towers only), scale and corrosion, and precipitation were the most common causes. The tower base comes second, where liquid level rising above the reboiler inlet caused premature flood and even internals damage. Attention to level measurement and kettle reboiler pressure balance are key preventive measures. Next follow tower internals damage, abnormal operation incidents (startup, shutdown, commissioning), assembly mishaps, packing liquid distributors, intermediate draws, misleading measurements, reboilers, and explosions. Tray design and tower simulation, two topics that receive much attention in the literature, are not high up on the malfunction list. The survey teaches numerous lessons on each of the malfunctions which are invaluable for achieving trouble-free design and operation of distillation towers.

Henry Z. Kister is a Fluor Corp. Fellow and director of fractionation technology (phone 1-949-349-4679, email [henry.kister@fluor.com](mailto:henry.kister@fluor.com)). He has over 25 years experience in design, troubleshooting, revamping, field consulting, control and startup of fractionation processes and equipment. Previously, he was Brown & Root's staff consultant on fractionation, and also worked for ICI Australia and Fractionation Research Inc. (FRI). He is the author of textbooks "Distillation Design" and "Distillation Operation," as well as 70 published technical articles, and has taught the IChemE-sponsored "Practical Distillation Technology" course 240 times. A recipient Chemical Engineering magazine 2002 award for personal achievement in chemical engineering, Kister obtained his BE and ME degrees from the University of NSW in Australia. He is a Fellow of IChemE, a Member of the AIChE, and serves on the FRI Technical Advisory and Design Practices Committees.

## **Dr. John Kunesh**

Vice-Chair  
Separations Division AIChE,  
Retired Technical Director, Fractionation Research, Inc.  
Red River, New Mexico

### **“SYSTEM LIMIT / ULTIMATE CAPACITY”**

The concept of “system limit” or “ultimate capacity” has been around for over 40 years. In 1961 Tek (U of Michigan – consultant to FRI) combined the entrainment flood approach of Souders and Brown (1934) with the drop stability work of Hinze (1949, 1955) and came up with the concept that in a turbulent field there is a maximum capacity of counter flow devices that is a function of vapor velocity and system properties and is independent of hardware parameters. The liquid rate effect in the model he developed was empirical as the theoretical work was based on analysis of the forces on a single drop. Levich, in Russia, followed a similar line of reasoning as Hinze, and at the end of his development, he cautions that if there are multiple liquid drops, things change. At the time the model was further refined (1965) it was noted that at low liquid loads, measured capacity tended to fall below model predictions. This was not considered to be a problem at that time since the conditions in question were normally encountered under vacuum where tray pressure drop usually governed. Recent experimental work with modern, high capacity, low pressure drop devices confirms that at low liquid rates there appears to be a capacity ceiling which is independent of liquid loading.

John Kunesh is currently Vice Chair of the AIChE Separations Division (automatic succession to chair in 2004). He retired on September 30, 2002 from his position as Technical Director of Fractionation Research, Inc., a position he had held since 1984. FRI is a member sponsored research organization founded in 1954 dedicated to testing distillation column internals on a commercial scale to achieve fundamental understanding of their performance and to develop design methods. Operations include both testing of hardware concepts to further basic understanding of performance and testing of devices already in commercial use to provide an unbiased test. He was responsible for a staff of up to eighteen, with an annual budget of ~ \$1,000,000.

Prior experience includes 13 years in the Process Engineering Department at UOP where he was involved in design work, engineering management and project management. He is also a refugee from the synfuels programs of the late 70's and early 80's. He holds a BS, MS and PhD in Chemical Engineering from Carnegie-Mellon and is a Registered Professional Engineer in Illinois and Oklahoma.

## **SPEAKERS**

### **Dr. Kenneth R. Cox**

Professor of Chemical Engineering, Rice University  
Houston, Texas

### **Dr. Oliver Wahnschafft**

Technology Manager, Chemicals and  
Petrochemicals, AspenTech, and Visiting Professorial Fellow,  
University of Manchester Institute of Technology (UMIST) Manchester, UK  
Boston, Massachusetts

## **"ADVANCES IN VAPOR-LIQUID EQUILIBRIUM (VLE) AND DISTILLATION SIMULATION"**

This will be a broad overview of VLE and Column Simulation and Convergence routines and strategies that will cover today's state of the art for Distillation. Some of the topics may include the following:

### **VLE:**

- 1) Ideal and Near-Ideal Systems containing Simple and Complex (Petroleum) Mixtures - K Values, Van Laar, Grayson-Streed, Equations of State for Petroleum.
- 2) Non-Ideal Systems - Wilson-Renon, NRTL, SAFT, Unifac/Uniqac, Others.

### **Column Simulation:**

- 1) Matrix solution of complex systems with recycle in Version 11+ of Aspen. Degrees of freedom and Column Specifications.
- 2) Hysim approach to column simulation, then flowsheet simulation. Used to be the fastest to converge column and flowsheet simulation.
- 3) Overview of history and current art of column convergence - Theta, Inside-Out, SURE, Others.
- 4) Column sequencing - Gas Plants parametric study for minimum utilities, non-ideal sequencing method, minimum Gibbs free energy, others.
- 5) Distillation splits of light and heavy keys.
- 6) Specifying a column for ease of convergence - material balance, moles/hr of feed-bottoms-overhead, heat balance, product specs, column break point, etc.

Dr. Wahnschafft has published extensively on the subject of distillation sequencing for nonideal mixtures. Opportunities for improving distillation processes by optimizing process schemes are a vital part of the consulting work of his group at AspenTech today. Dr. Wahnschafft will discuss the use of distillation simulation and design tools available with commercial simulation software today and report on a number of success stories in which these tools helped engineers to devise novel solutions for significant reductions in energy consumption, capital costs etc.

Dr. Kenneth R. Cox is a Lecturer in Chemical Engineering at Rice University, where he has taught senior level courses in equipment design and separation technology, process design, and process dynamics and control, in addition to chemical engineering laboratories I and II. Prior to joining the faculty at Rice University, Dr. Cox taught for 4 years at The Ohio State University and worked for 17 years as a Research Engineer with Shell Development Company in Houston. As an Associate Professor at Ohio State, he taught courses in process design, colloidal behavior, transport phenomena, research planning, and technical communications. His research was in the simulation of colloidal dynamics and stability, with specific applications to biological systems. At Shell Development Company, Dr. Cox specialized in the areas of colloidal dynamics and stability, phase equilibria of complex systems, applications of molecular simulations, and physical properties for process design. He spent 1-1/2 years as an exchange scientist with Shell Research in Amsterdam.

Dr. Cox served for many years as a member of the Editorial Board for Fluid Phase Equilibria, an international journal. He has also served as chairman of the Chemical Engineering Science and Fundamentals programming committee of AIChE. Dr. Cox is a member of the American Institute of Chemical Engineers, the American Society for Engineering Education, and the American Chemical Society. He is a registered Professional Engineer in the state of Texas. His educational credits include a B.S.Ch.E. (1974) degree from The Ohio State University, and M.S. (1977) and Ph.D. (1979) degrees from University of Illinois.

Dr. Oliver Wahnschafft is currently Technology Manager for Process Improvement Services in AspenTech's Engineering Services Division. Dr. Wahnschafft holds a joint PhD and Doctorate in Engineering degree from Carnegie Mellon University and the Technical University of Munich. Dr. Wahnschafft is also a Visiting Professorial Fellow at the Department of Process Integration at the University of Manchester Institute of Technology (UMIST) in Manchester, UK.

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## CALENDAR OF EVENTS

### DINNER MEETING

May 1, 2003

*"Aspects of Patent Law"*

Speaker: **Dr. Carter White**

PhD Chemist and LLD Patent Attorney

### WORKSHOPS

May 1, 2003

*"Vacuum System Design and Operation"*

Process Engineering/Plant Operations Workshop

Speakers: **Allen Fris**, Graham Vacuum Systems

### SPECIAL EVENTS

May 5-8, 2003

Offshore Technology Conference

Annual Technical Meeting to be Announced

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GDS is a 500 person engineering and construction management firm, with offices in Houston, Baytown, and Texas City. We perform front end and detailed design on projects up to \$100 MM TIC for refineries, petrochemical, polymers, and gas processing units.

The Process engineering department consists of 50 engineers, with an average of 20 years experience with E&C and operating companies. Process engineering activities include:

- Heat and material balance
- PFD generation
- Major equipment specification
- Process simulation, including SimSci Provision, Hysys, and Aspen.
- Unit debottlenecking and optimization studies
- Tower and vessel design
- Heat exchanger design
- Process troubleshooting
- Flare/relief system analysis, including DIERS sizing
- System hydraulics
- Environmental consulting, including NOx reduction.
- Process hazards analysis (HAZOP, etc.)

For information, please contact

Mike Najarian, P.E., process engineering manager

ph: 713-667-9162 • fax: 713-667-9241

email: [mike.najarian@gdseng.com](mailto:mike.najarian@gdseng.com)

The GDS website is: [www.gdseng.com](http://www.gdseng.com)





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## **VOLUNTEERS NEEDED**

### **2003 Offshore Technology Conference May 5, 6, 7, & 8, 2003**

The South Texas Section, A.I.Ch.E., has again been selected to staff one of the OTC "Conduct" Committees. We have been asked to provide personnel for the Proceedings Distribution Committee. Volunteer are also needed to help out with the Registration Committee and National AIChE's booth in the lobby.

For agreeing to serve as a member of the "Conduct" Committee by attending an orientation session on Friday, May 2, (time & location to be announced) and serving as either a Proceedings Distribution or Registration Conduct Committee member for one-half (1/2) day; each volunteer will receive:

1. A complimentary OTC Registration
2. A complimentary Parking Pass for the OTC
3. A Reserved Parking Place the day of your Conduct Committee assignment.

#### **For Additional Information; please contact:**

Tom Menn  
281-485-3719

or

Dave Pay  
(713) 321-4792  
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## **ASTROPHYSICS, ASTRONOMY, AND THE EARTH'S CLIMATE**

I got home from work on Thursday, 6 Mar 03, and quickly scanned my mail. Included were the South Texan Newsletter, and the March 2003 issue of the. The newsletter contained, of course, the meeting announcement and Dr. Dufour's talk on astronomy. The subject area was one of high interest to me, as there is significant research underway on the couple between astrophysics and our climate. That, plus the Brady Landings site motivated me to attend, which I hastened to do, and thoroughly enjoyed the evening.

When I returned home, I had a chance to glance at the balance of my mail, including the Scientific American. Talk about coincidence. It contained an article related to Dr. Dufour's talk, entitled "The Search for Dark Matter". For those interested, it is on pages 50 to 59. For those also interested in the climate couple, which was the question I asked at the dinner meeting, the hypothesis follows:

1) Earth is bathed continuously by a flux of invisible, galactic cosmic rays. When these rays interact with the atmosphere they

will ionize some oxygen and nitrogen molecules. These ionized species can then contribute to cloud formation.

2) The sun has huge magnetic activity and a huge magnetic field. One manifestation of this activity are the so-called sun spots, along with their approximately 22 year, full cycle.

3) The flux of cosmic rays will be modulated by changes in the sun's magnetic field, and hence cloud formation will also be modulated. There is some evidence that this is happening, but this research is surely embryonic.

4) This is just one hypothesis how astrophysics may play a role in our climate. There are several other hypothesis too. All of these contribute to elevating astronomy and astrophysics to a more important science, with some applications of potential real, near term value.

Submitted by  
Gerald T. Westbrook

**University of Houston  
Department of Chemical Engineering  
Undergraduate Program 50th Anniversary  
&  
2003 Seniors Dinner**

**Friday, May 2, 2003  
Social 6:00 pm, Dinner 7:00 pm  
University Hilton Hotel  
Entrance One (off Spur 5/Calhoun)  
Dinner Cost: T.B.D.  
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## You're on the Awards Nominating Committee!

### Nominations Needed!!!

It's nearly **Annual Awards** Time again!

Please use this form or any reasonable facsimile to submit your nominations **before May 1, 2003** to

Tom Menn

or

Sada Iyer, Ph. D.

P. O. Box 458  
Pearland, Texas 77588-0458

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Westhollow Technology Center  
P. O. Box 1380  
Houston, Texas 77521-1380

Ph.: 281 - 485 - 3719

Ph.: 281 - 544 - 9066

E-Mail: [thomasmenn@aol.com](mailto:thomasmenn@aol.com)

Fax: 281 - 544 - 8826

E-Mail: [sdiyer@shellus.com](mailto:sdiyer@shellus.com)

Nominations are now being solicited for the following:

- ☐ 2002's Distinguished Service Award (STS Member over 35 years of age)
- ☐ 2002's Outstanding Young Member (STS Member under 35 years of age)
- ☐ 2002's Best Fundamental Paper (STS Members Only)\*\*\*
- ☐ 2002's Best Applied Paper (STS Members Only)\*\*\*

Nominee's Address & Phone No.

Your Address & Phone No.

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

**\*\*\* - A legible copy of the nominated paper must accompany the nomination and the nominated paper must have been published in a recognized periodical.**

A copy of this form can also be e-mailed from: <http://www.sts-aiche.org/#ANNOUNCEMENTS>



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