

The South Texan

2003 Marx Isaacs Award for Outstanding Large Section Newsletter



Special Notes

- Location: Park Plaza Hotel
Reliant Center
- ExComm Meeting 4:30 PM
- Workshops 5:30 PM
- Networking 6-7 PM
- Dinner 7 PM
- Keynote Speaker 8 PM

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Monthly Meeting December 1, 2005 Spouse's Night!

Guest Speaker: Dr. Donnie Rudd

Topic: Stem Cells, What it's all about

Stem cell technology is very controversial because of the use of embryonic stem cells. Dr. Rudd's company, Regenotech, Inc., specializes in therapeutic uses of non-controversial adult stem cells which hold promise for many exciting treatments such as heart regeneration and pancreas regeneration (the cure for diabetes).

Chemical Engineers will play an important part in the future of this technology particularly in the development of bioreactors. Regenotech works closely with NASA in developing technology, and much of the technology has been developed on the shuttle flights. Dr. Rudd will discuss where stem cell technology stands and what lies in the future.



Donnie Rudd is Chief Scientist and Director of Intellectual Property for Regenotech, Inc. in Houston. He began his career as a chemical engineer, having graduated from Texas A&M University. He went on to obtain his Juris Doctor degree, his Doctor of Divinity degree, and doctorates in bio-science and bio-engineering. He worked briefly as a chemical engineer for Monsanto. He then worked as a patent attorney for Quaker Oats Company and served as Director of Litigation for United States Gypsum Corporation. He left corporate practice and formed his own law firm. He is known for an unusual diversity of cases, has represented the Unification Church in major First Amendment cases and has been the expert witness in many murder cases, testifying on gunpowder residue. The last few years of his law practice were devoted primarily to construction defects cases.

Dr. Rudd retired from the practice of law in 1991 in order to continue his writing and teaching career. Shortly after he retired, he was reemployed by RTC/FDIC as an investigator and became Senior Investigator investigating the matter commonly known as "Whitewater," among others.

Dr. Rudd's awards include Who's Who in the World, Who's Who in American Law, Who's Who in America, Condominium Attorneys Bar Association award as attorney of the year 1989, World Institute of Achievement Award as attorney of the year 1987, and Who's Who in Emerging Leaders of America.

Dr. Rudd has written 15 books and over 170 other publications. He has numerous inventions including treatment for Sickle Cell Disease, a method for reducing the spread of HIV, a method for treating AIDS, and a method for treating diabetes, among others.

Dr. Rudd lives with his wife in Sugar Land and has 9 children and 18 grandchildren.

See page 3 for instructions on how to sign up for the meeting.

Reminder: January's meeting is January 12, the 2nd Thursday.

December 2005 Workshops: Begin at 5:30 PM, Park Plaza Reliant Center

C.A.S.T. (Computing And Systems Technology): Wireless Technology

Speaker: Jeff Gaspar, Phoenix Contact

Abstract: Wireless technology or Radios are being used in a variety of industries and applications. The flexibility and reliability offered by this technology is in high demand because licenses are not necessary, installation is quick, easy, and often less expensive than installing conduit and pulling cable.

Bio: For the past 10 years he has worked as a project engineer and Engineering Consultant specializing in control systems for Toshiba, Omron, and IDM Controls. The industries serviced by these companies range from the food and beverage to the petrochemical industry.

The engineering solutions focused primarily on increasing productivity while reducing operating cost by either upgrading an existing control system or replacing antiquated systems with a new turn key system. After 10 years as a project engineer and consultant, he moved to Phoenix Contact as an Industrial Sales Engineer where he combined his experience and Phoenix Contacts Innovative Technology to provide customers with solutions that are based on best engineering practices and 10 years of field experience. Jeff has an MBA and Bachelor of Science in Engineering Technology, and is Registered with the Texas State Board of Engineers as an

Process Safety: Explosion Phenomena, Impacts and Structural Mitigation

Speaker: Mike Moosemiller – BakerRisk

Abstract: The methods for predicting the strength and impacts of explosions have improved greatly in recent years. The basis is explosion theory. This theory is tested through ongoing field experiments of both explosion phenomena and structural responses to blast loads. The theory and field testing are then validated through detailed observations of actual industrial explosions to develop realistic models that can be used for accurate building siting assessments. This presentation describes the fundamentals of explosion phenomena, and illustrates these through several videos of explosion tests that have been performed by a research cooperative. Videos of the response of various structural types to defined blast loads are also shown. Lastly, methods of mitigating existing structures to improve their blast resistance are presented.

Bio: Mike Moosemiller is a Principal Consultant at BakerRisk's Houston office. He has over 15 years experience consulting to the oil and gas, chemical, pipeline and other industries in a variety of subjects impacting process risk. Prior to that, he worked for seven years for UOP as a commissioning engineer for new refining projects, primarily overseas. He has a Bachelor's Degree in Chemical Engineering from Purdue University, and a Master's Degree from the University of Wisconsin – Madison, also in Chemical Engineering. He is an American Society for Quality Certified Reliability Engineer.

Process Engineering/Plant Operations : Brazed Aluminum Heat Exchangers

Speaker: Kevin Arrighi, SME Associates

Abstract: This paper will provide an overview of the components of a brazed aluminum heat exchanger (BAHX) and how Chart Industries designs, manufacturers, and tests them. An overview is provided of the range of uses for BAHX in cryogenic process refrigeration systems with an emphasis on debottlenecking ethylene production facilities by optimizing their refrigeration systems.

Discussion is presented on the uses of BAHX and the advantages that they provide the designer of refrigeration systems and the owners of facilities utilizing cryogenic processes.

Bio: Kevin has worked in Technical Sales and Product Development for the Gas Processing, Oil Refining and Petrochemical Industries since graduation. He has held positions with Union Carbide, Alcoa and recently joined SME Associates which represents Chart Industries for Brazed Aluminum Heat Exchangers and specializes in heat transfer solutions. He has a BSChE from the University of South Alabama

Environmental Issues: New Technology for Detection of Gas Emissions

Speaker: David Furry

Abstract: This presentation is to demonstrate the uses of a new technology that has been developed for the detection and identification of chemical and natural gas emissions from various sources such as chemical plants, refineries and natural gas pipelines. The technology uses a passive infrared camera with a special band pass filter installed into the system next to the detector. A passive infrared camera uses the natural heat as the background from the components, ground as the infrared source.

In the Hawk Leak detection system, an optical band pass filter is positioned within the absorption band of the chemical or gas to be detected, thus giving the operator a real time visual image of the leaking components or leaking pipeline. Also in these presentations we will demonstrate and discuss the different uses of the camera on VOC's and HRVOC's in the chemical and oil refining industry along with how it can be used in the natural gas industry to help reduce greenhouse gases.

Meeting Registration Information

Complete your reservation online at:

<http://www.sts-aiCHE.org/reservations/sts-aiche-reservations.htm>

You may also **cancel a reservation** using this link.

Or call (713)-295-4847 to make reservations until 4:00 PM Tuesday November 30.

The cost of the dinner is \$22 per person with reservation, \$24 without, 1/2 price if student, retiree, or unemployed. Payments are not (yet) accepted online.

We look forward to seeing you and your spouse there!

Attendees of the Dinner Meeting will earn 1 PDH for the Texas Professional Engineer Continuing Education Programs. Remember to track your hours!

ExComm Meeting

The Executive Committee will meet from 4:30 PM to 6 PM Thursday, December 1, at the Park Plaza Hotel, Reliant Center.

Calendar of Upcoming Events

Mark your calendars! Upcoming meeting dates are:

January 12, 2006	Dinner Meeting (Possible joint meeting with ASME)
February 2, 2006	Process Safety Forum
March 2, 2006	Energy Forum
April 27, 2006	Distillation-Themed Dinner meeting (<i>The Distillation Symposium is on hiatus this year. We're looking for someone to try to fill Jim Morris' shoes and chair the event next year</i>)
May 4, 2006	Awards night
June, 2006	Host National AIChE Leadership Conference



Heat Transfer Research, Inc. (HTRI)

The premier global provider of process heat transfer technology

TECHNICAL SERVICES ENGINEER

Heat Transfer Research, Inc. (HTRI) is the global leader in process heat transfer and heat exchanger technology. Our industrial research and development consortium serves the engineering needs of nearly 600 companies in more than 45 countries. We conduct application-oriented research on pilot-scale equipment at our state-of-the-art facility. Our staff uses these proprietary research data to develop methods and software for the thermal design and analysis of heat exchangers and fired heaters. In addition, we provide technical support and offer training, consulting, and contract services to members and non-members.

Primary Responsibilities

- Perform engineering analyses, including experimental testing and review of proprietary prototype heat transfer product designs, as well as analyze root cause of industrial heat transfer equipment operating problems
- Develop workshops, short course materials, web-based tutorials, and other training products
- Respond to technical inquiries related to HTRI software and methods; prepare technical documentation to assist members in using/interpreting HTRI technology
- Identify and solicit experimental, analytical, software development, and consulting work
- Respond to requests for contract and consulting quotations; prepare proposals
- Identify potential products to complement and leverage HTRI's existing technology

Minimum Qualifications

- B.S., Chemical or Mechanical Engineering and 5 years' industrial or consulting experience
- Professional Engineer (P.E. license) (individual must qualify for Texas P.E. within one year)
- Excellent communication skills (oral and written), including proven ability to write quality technical reports and develop/deliver formal presentations
- Strong organizational and multi-tasking skills
- Willingness to travel domestically and internationally

Prefer candidates with experience using CFD and HTRI software.

Individual must possess permanent authorization to work in the USA.

Send letter of application and résumé to Ms. S. Breaux Daniel, Director of Human Resources

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Susan's Links of the Month

When you need a quick unit conversion, there are many online sites available. You may be away from your normal references, or need a conversion for a unit group you do not typically use. Here are some that I've found to be useful.

<http://www.sciencemadesimple.net/conversions.html> : From Science Made Simple, many conversions available.

<http://www.efunda.com/units/> : One of the many facets of the eFunda site; with currencies and some constants.

<http://convertalot.com/elselinks.html> : Convertalot - this is a reference site containing links to simple and complex sites (Ultimate ellipse calculator, anyone?)

<http://www.martindalecenter.com/Calculators.html>: Contains chemistry, biology, as well as engineering conversions

<http://www.metric-conversions.org/> : Has a couple of downloadable tables, as well as online conversions. Very user-friendly site.

http://www.pasztorvolgyi.sulinet.hu/zsolt/klte/mert_atv/measure.html: Simple, straightforward, with a few conversions

<http://www.ex.ac.uk/cimt/dictunit/dictunit.htm>: A Dictionary of Units. What is a farad, anyway? And which is greater, and exagram or a yottagram?

<http://www.katmarsoftware.com/uconeer.htm>: A free, downloadable, user-friendly conversion program. Includes conversion of the constant R!

Have some useful links of your own? Send them to newsletter@sts-aiiche.org. Coming in January: Chemical Engineering reference sites. What else would you like to see?

NOTE: The South Texas Section does not endorse or promote any product, service, or site, including these. STS has received no revenue for this information. I provide these links for personal use. -S.Cannon

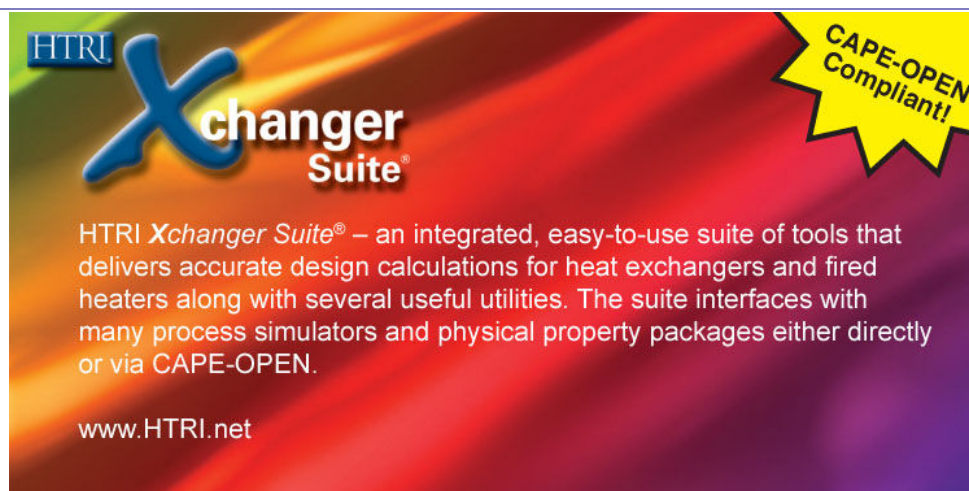
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www.HTRI.net



Reminder - Vote for your South Texas Section Officers!

Ballots are out for this year's elections! Check your mail, and send in your ballots. Ballots must be received by November 28, 2005. With the Thanksgiving holiday looming, get those ballots in today!

The candidates are:

For Chairman Elect, David Karesh.

For Secretary, Sanjeev Saraf and Kevin Hagan

For Executive Committee Position 2, Ken Cox and Peter Strasser

For Executive Committee Position 4, Randall Bachman and Alan Rossiter

For more information on the candidates and their positions, review the information provided with your ballot.

If you did not receive your ballot, contact Matt Kolodney at 713-767-3752 or mkolodne@tceq.state.tx.us.

Coastal Subsidence Conference Attracts Diverse Forum

Over 120 people attended the "Coastal Subsidence, Sea Level and the Future of the Gulf Coast" Conference November 3-5 to hear differing views on the risks of subsidence for coastal areas of Texas and Louisiana, including Houston. The Houston Geological Society (HGS) and the Engineering, Science and Technology Council of Houston (ECH) joined together to organize and present the meeting at the Northwest Conference Center in Cypress, Texas.

The meeting was held to increase public and governmental awareness of the complex issues that contribute to subsidence and to provide a forum for discussion of all aspects of the subsidence issue. The hope was to open lines of communication so that policy makers, their technical advisors and the public might have a better understanding of coastal subsidence, how to quantify and predict it, as well as plan infrastructure around its effects.

These were perhaps idealistic expectations considering the fundamental differences dividing the various parties in the subsidence debate for the Gulf Coast. While everyone involved in the debate over subsidence agrees that there are many aspects and factors that contribute to subsidence, there are also clear camps that favor a single cause as being the most significant.

The Harris-Galveston Subsidence District (HGSD) represents the strongest voice favoring ground water withdrawal as the chief cause of subsidence in the Houston area. Changes in ground water pumping have resulted in impressive reduction or elimination of subsidence in many areas of Houston. There are, however, many areas of the metropolitan area that are undergoing significant subsidence that is not easily explained or fully understood.

The diverse array of participants at the Coastal Subsidence Conference included state and local government and regulatory officials from Texas and Louisiana, representatives from various federal agencies such as the National Oceanographic and Atmospheric Administration's (NOAA) National Geodetic Survey (NGS) and National Hurricane Center, and United States Geological Survey (USGS). The conference was also attended by university researchers and faculty from the University of Texas, Texas A&M University, Rice University, Tulane University and Louisiana State University (LSU) along with representatives from a variety of geological, environmental, petroleum and engineering companies.

HGS President Dave Rensink described the purpose of the Conference. "The idea is to expose participants to as many of the cause and effect relationships of subsidence as we possibly can. We want to make sure that everyone who is involved in the decision-making process is considering as many aspects of the problem as there really are and not focusing on only one or two aspects of the problem."

It is safe to say that most attendees were aware that subsidence is a problem for coastal regions of the Gulf of Mexico. Probably not all were equally aware of the complexity of the issue. Most participants agreed that the Conference was successful in raising awareness that coastal subsidence cannot be easily explained in terms of one cause or factor.

One attendee said, "We can be hopeful. Realistically, the attitude of the Subsidence District appears to be shifting, which is encouraging. The startling and painful fact that NGS (National Geodetic Survey) cannot attest to the accuracy of any benchmark in the Harris/Galveston County area should encourage concrete action. It will take time, though, for the conflicting agencies maintaining and using benchmarks to cede territory and move toward a unified and cooperative policy of benchmark integrity - a state geodetic survey."

From the Editor

Can you believe another year is drawing to a close already? It seems I just put up the 2005 calendars. And now it's time to change them out again.

And what a year it has been. I've been through some personal changes this year, so I find myself in a reflective mode. I think of the things that I am most thankful for, the things that I accomplished this year, and hopes for what might come to be next year.

One thing I am thankful for is the booming time our profession is seeing right now. I've been around long enough now to have lived through one or two slow times (or 3, or 4...). Busy times bring challenges of their own, though, and they are not always easy.

I look back at the challenges I have faced, professionally and personally, as well as the challenges we have all faced during the year. They test our knowledge, strength, and resolve. A new year means new challenges that will test us just the same.

Some of the challenges for our South Texas Section of AIChE remain the same - how do we maintain membership, keep our members interested, and encourage participation? What can we do at meetings to improve attendance? What is the best way we can serve our membership? How can we do this using new technologies available to us?

It falls on the shoulders of a select group of fellow ChemE's to provide for the entire group. You can certainly become part of this group - just contact us for opportunities. For example, we are looking for a Distillation Symposium Chair for the April meeting.

One of my personal accomplishments this year was joining the STS team by editing this newsletter. The comments we have received on its format have been positive, and some constructive as well. All are appreciated. It is a bit of work, just a little, and it keeps me up to date with everything that is going on. I enjoy bringing this information to all of our readers.

It's about that time where we will be required to set goals for next year. So if you feel your life or professional career is missing something, consider joining the STS team. They are a great bunch of people and I've enjoyed working with them. You will too!

Susan Cannon, Editor

SusanCannon119@aol.com or newsletter@sts-aiche.org

Submit an article or idea! Include your name and contact information (phone, email, or fax). Anonymous submissions will not be accepted. Your company name may be omitted if you prefer. Entries may be edited for length and content (grammar, punctuation, etc.).

Vital Links

Main South Texas Section site: <http://sts-aiche.org>

National AIChE website: <http://www.aiche.org/> (Needs Flash Plug-in)

Earn CEP credits at AIChE functions: http://www.sts-aiche.org/Texas_PE_CEP_Rule.html

Download the CEP log form: http://www.sts-aiche.org/xls/STS-AIChE_CEP_Log.xls

Update your contact information: <http://sts-aiche.org/memberinfo.htm>

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Previous Newsletters (PDF format): <http://sts-aiche.org/newsletter/newsletter.htm>

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SOUTH TEXAS SECTION MISSION STATEMENT

As a section of AIChE, we serve chemical engineering professionals in the South Texas region through education, professional development, and networking.

Vision 2008

We will become an organization with a strong and active membership. We will accomplish this through:

1. Increasing awareness of the South Texas Section of the AIChE
2. Improving relevancy of our programs
3. Improving our governance
4. Hospitality/Welcome/Social

The South Texan is issued monthly, except June, July and August, by the American Institute of Chemical Engineers, South Texas Section. Opinions expressed are those of the authors and not of AIChE. The newsletter is published electronically.

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Select the link to View/Update Your Online Directory Listing.

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The South Texan Newsletter Crew

WHAT DO YOU THINK OF THE NEWSLETTER? We want to know!

Contact us at newsletter@sts-aiche.org with comments, questions, suggestions, and ideas for next month.



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