

October Meeting**Presentation and Tour of the
NATIONAL
CORN-TO-ETHANOL
RESEARCH CENTER****Wednesday, October 15th, 2003****Jim LaBlance, ASME Program Captain**

The National Corn-to-Ethanol Research Center, located on the campus of SIUE, is the only facility in the world that fully emulates both a corn wet-mill and corn dry-mill commercial fuel ethanol production plant. This research center will commercialize new technologies for production of ethanol fuel more cost effectively from corn crops. The NCERC will increase the availability of domestically produced, environmentally friendly, renewable fuel, thus reducing the U.S. dependence on foreign oil. Currently the United States produces 2.7 billion gallons of ethanol per year. The U.S. expects to produce 5 billion or more gallons of ethanol fuel per year by 2012.

This is a joint meeting with the Association of Facilities Engineering (AFE).



Ethanol pilot plant equipment.



View of research laboratory building.

The plant is capable of a 200 bushel a day corn usage, either wet or dry grind. The plant will operate approximately 100 days a year and produce an average of 500 gallons a day of ethanol. The facility is 23,000 square feet and houses a full support lab, operational facilities and offices for administration, research and operations. This plant will allow results from laboratory experiments to be verified on a larger scale without the investment costs of implementing new technology.

Speaker: Dr. Rodney J. Bothast: Director of the NCERC and Professor of Biological Sciences. He has held leadership positions at USDA Laboratory in Peoria, Illinois. He received the "Award of Excellence" at the 18th International Ethanol Workshop for outstanding achievements.

Date: Wednesday, October 15th, 2003

Place: Southern Illinois University, Edwardsville.
400 University Park Drive
Edwardsville, Illinois 62026

Directions: from I-270 take exit 9 at Highway 157. Take 157 North to SIUE campus entrance. Turn onto South University Drive which merges with University Park Drive to building #400.

Time: 6:00 PM Presentation and Tour

Limited Size: Limited to first 50 reservations.

Cost: Free

Reservations are required by **noon, Tuesday, October 14th, 2003**. For reservations, call the ASME Reservation Service at **(314)-353-2463**.

For details contact Jim LaBlance, (314) 231-5485 or email, jim.lablance@edm-inc.com

Message from the Section Chair:
Please join us at the next
St. Louis Section Board Meeting
6:00 p.m. Wednesday, October 22
at Laclede Street Bar and Grille
3818 Laclede Avenue
near Saint Louis University Campus
Tom Mull

Message from the Program Chair
What are PDH and CEU?

PDH – Professional Development Hours are very important for practicing licensed engineers. All persons licensed as a Professional Engineer in the state of Missouri must acquire 30 professional development hours (PDH) every two years before renewing their license.

PDH is defined as one contact hour (minimum of 50 minutes) of instruction or presentation. PDH cannot exceed the actual contact time. For example, 50 minutes would count as 1 PDH while 150 minutes would count as 2.5 (NOT 3.0) PDH. Fractional PDH should be rounded off to the nearest half-hour. For example, 30 to 49 minutes would count as 0.5 PDH and 50 to 60 minutes would count as 1.0 PDH while no activity under 30 minutes would count towards PDH. If a person accumulates more than required (30 PDH) PDH in a particular renewal period, a maximum of only 15 PDH would qualify for carry over to the next renewal period.

Continuing Education Unit (CEU) is a nationally recognized unit of measure for continuing education and training. 10 PDH is equivalent to 1 CEU. Record keeping is the responsibility of the licensee. Adequate records must be maintained for a minimum of four years for auditing purposes. How to keep a record of your PDH? and how your local section of ASME can help you earn PDH? Stay tuned for the next newsletter.

See the enclosed wallet size schedule of programs.
--- Swami Karunamoorthy, Program Chairman

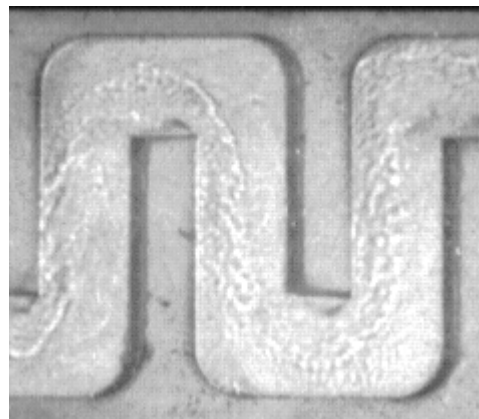
New High-Speed Digital Camera
Enhances Research at SIUE



Dr. Majid Molki, ASME Faculty Advisor at SIUE. **Minichannels** are small diameter flow channels that have potential for use in heat exchange devices in the aerospace, refrigeration, and automotive air-conditioning units. Liquid refrigerant flows through the minichannel

evaporator of the AC unit to evaporate and absorb heat from inside the car and provide cool comfort for the passengers. Minichannels are very efficient in removing heat, and they occupy a small volume. The high thermal efficiency and small dimensions reduce fuel consumption and increase gas mileage. Dr. Molki and his research team in the Mech. Engr. Dept. have been conducting research on boiling of refrigerants in the minichannels to improve thermal performance of future automotive air-conditioning units. Part of this research was presented to the first International Conference on Microchannels and Minichannels in April 2003.

Through funding by SIUE, minichannel research was significantly improved with a high-speed digital camera which can take pictures of boiling refrigerant at a speed of 8000 frames per second. Graduate assistant Venugopal Vengala has captured high-speed images of refrigerant flow in minichannels which will be used for analysis of flow patterns and the evaporation process in minichannels. A sample photo taken with this camera is shown below



Boiling flow of R134a refrigerant in a ribbed minichannel taken by high-speed digital camera

November Presentation and Tour

“The X PRIZE”

Thursday, November 13th, 2003

David Henkelmann, Program Captain

314-579-7089

An exciting evening of space adventure and competition. Right now, 24 teams are competing for the **X PRIZE!**

The **\$10 Million cash prize** will be awarded to the first team that:

- Privately finances, builds and launches a spaceship, able to **carry three people 100 kilometers (62.5 miles) into space.**
- Returns safely to land on Earth
- Repeats the launch with the same ship within two weeks



Many teams have already completed their detailed design, and construction of many vehicles is well underway. One well-known team, Scaled Composites, led by Burt Rutan, has already completed many phases of flight-testing and may attempt to claim the prize prior to our meeting.

The X PRIZE competition follows in the footsteps of more than 100 aviation incentive prizes that created today's multi-billion dollar air transport industry. It is inspired by the early aviation prizes such as the spectacular trans-Atlantic flight of Charles Lindbergh in **the Spirit of St. Louis captured the \$25,000 Orteig prize in 1927.**

Through an entrepreneurial approach to aviation, Lindbergh demonstrated that a small, agile team could quickly perform the unachievable. Since its inception in May 1996, the X PRIZE Foundation has registered 24 independent teams from seven countries to compete for the prize.

Gregg Maryniak will present the most recent competition status, technical challenges and innovative team approaches, and photos and videos from many of the teams plus Scaled Composites actual flight-testing footage.



In addition to the X PRIZE presentation, the **James S. McDonnell Prologue Room** will be open for this evening. Please arrive early and enjoy the self-guided tour. See displays of rockets and missiles including a full-scale Harpoon radar-guided missile. At the exhibit's center are full-size engineering mockups of the Mercury and Gemini spacecraft that carried America's first astronauts into space.

Place: Boeing Bldg. 100, McDonnell Blvd

Date: Thursday evening, November 13th, 2003

Guests: of all ages are welcome

Look for more information on this presentation and tour in next month's newsletter.

Update your E-mail and address for newsletter

Each month, the St. Louis Section downloads your membership data from ASME National to update our E-mailing and paper mailing distributions. The fastest method to change your E-mail and regular mail addresses, is to visit the ASME website, www.asme.org in the “Change of Address” section under “Members only.” Your sign-in ID is your ASME member number.

If you do not have E-mail or if you have preference for a paper version of the newsletter, please contact Jim Campbell at 618-283-4700 x260 or jcampbell@polymersealing.com. You can also view the current ASME St. Louis Section information and newsletter at www.siu.edu/asme.

Piping Seminar Manuals

We still have a few "left over" manuals from the Piping Seminar held last April. A number of the manuals were sold as a result of the article in last month's newsletter, and only a few remain. These manuals are available to anyone interested, at a cost of \$25.00, which covers the cost of preparation and assembly of the manuals. Each manual contains copies of the 184 slides used by the speakers in their presentations, as well as the following (all in a sturdy 3-ring binder):

- 40 pages of data and information on pipe, fittings, valves, accessories, etc.
- copy of the "the Copper Tube Handbook"
- copy of "Tubing Data", by Swagelok Company
- copy of "Gasket Design Criteria" by Flexitallic.
- copies of "Choosing the Right Valve"
- "Piping Pointers", by Crane Valve Co.
- copies of two technical papers on water hammer
- copy of "Intro to Fluid Flow", by Vogt Valve Co.
- copy of "Pipe Fitters Handbook", by Anvil Corp.
- a CD ROM on selection and sizing of valves from Vogt-Edward Valve Co.

If interested in obtaining a copy of the manual, contact John Saufnauer at (618) 482-6530, or via email at jjsauf@solutia.com. Copies of the remaining manuals are available on a first come, first serve basis.

ASME St. Louis Section

Mailing Address:

ASME - St. Louis Section
The Engineer's Club of St. Louis
4359 Lindell Blvd.
St. Louis, MO 63108

Volunteers Needed

to tell it as it is

ASME St. Louis Section is seeking professionals to participate in an evening of career conversation with Student Sections at one of the universities UMR, SIUE, SLU, or WASHU. Please contact Tom Mull at 636-938-6173.

Volunteers Needed

to advise student design projects

ASME St. Louis Section is seeking professionals to participate with Student Sections in ASME National Design Competition. Please contact Tom Bever at 314-353-8558 or bevert@asme.org.

Mixing Seminar

AICHE/Chemineer is offering a mixing seminar. This is a great opportunity to improve your mixing skills and PE qualifications. Each participant will receive a certificate of participation, which will represent 3 PDH's for Missouri PE renewal. Seminar is limited to the first 50 people. For all those who can't attend the seminar, be sure to come out for the social hour, dinner, and after dinner meeting and discussions.

WHEN: Thursday, October 16, 2003

2:00 - Registration.

2:30 - Seminar begins (light refreshments provided).

5:30 - Social hour provided by Paul Bakula of Chem-Solv.

6:30 - Dinner (choice of several).

WHERE: Engineers Club, 4359 Lindell Blvd, St. Louis, MO 63108

COST: Seminar - \$35 per AIChE member (or other affiliated society), \$40 for others. Dinner - \$12 per person (member or non-member)

RESERVATIONS: Call or e-mail Dave Eckhardt 314-919-3225 or deckhardt@lg.com to register for seminar and dinner, or only seminar, Please respond before Monday, October 13th.

DIRECTIONS: I-40 or I-44 to Kingshighway. North on Kingshighway to Lindell. Right on Lindell. The Engineers' Club is on the left side.

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