The American Society of Mechanical Engineers
VOL 3 NO. 2
October 1996

The Bay Connection

Newsletter of the San Francisco Section of the American Society of Mechanical Engineers

In this issue

October Meeting

Autodesk Tour

October 30, 1996

This month's meeting is at the Autodesk Corporation, whose popular software products such as AutoCAD™ , and 3DStudio™ are commonly used by engineers and those familiar in the CAD/CAM field.

~ Schedule ~

6.00	Social	
6.30	Welcome and Introductions	Dominic Gallello Vice President MCAD Market Group
6.45	Mechanical Strategy	Mark Sawyer Director of Market Development Americas
7.15	MCAD Desktop Demonstration	BS Rao Application Engineer MCAD Market Group
7.45	3D Studio MAX Demonstration	Phil Miller Product Manager 3D Studio MAX
8.30	Adjourn	

Space is limited to 60 ... RSVP
Call S.F. ASME at (415) 721-... by Monday, October 28, 1996.

See back cover for map and directions

ASME SPONSORS BERKELEY SHORT COURSES

Updating engineers and industry experts on the latest technological developments, ASME International is sponsoring a series of short courses in October 1996 in Berkeley, CA. Titled the 9th Annual Bioprocess Technology Seminars, the following courses will be held at the Berkeley Marina Marriott:

October 21-24
- Bioreactor Process Technology
- Bioprocess Separations Technology
- Bioprocess Equipment Design
- Team-Based Product Development

October 22-24
- CIP Technology - Principles and Practices

October 23-25
- Bioprocess Purification Scale-up

Attendees are eligible to receive Continuing Education Units. Discount rates and scholarships are available to those eligible. For further information, or details about registration, contact: ASME Information Central at 1-800-843-2763 or email infocentral@asme.org

Greetings From the Chair

by Roy Morgan, P.E.

The September dinner meeting and tour of Autodesk, Inc. got me thinking about the concept of size reduction. The computational revolution has epitomized this reality. Today a massive refinery can have all its drawings stored on a magnetic disk no larger than a few slices of bread. similarly engineering companies seemingly believe that commensurate size reductions can be achieved with the technical work force.

The challenges created by these compressions of human resources place some very real and complex demands on the knowledge base of engineering teams that are increasingly finding themselves without the "experts" that previously resided in the cubicle next door. Obviously, this creates a need for more efficient and accurate information systems - but not just "information." Mass quantities of text and data are virtually useless to engineers without a way to quickly filter through it to useful and accurate information that may be required for design problems or regulatory compliance.

As the speed of engineering increases, project structure must become automated to keep pace with the engineer. For each one of us this means improving our own knowledge base about what is "industry practice" for a multitude of disciplines to better manage everyday tasks that more and more frequently are done without resident experts.

For these reasons I encourage all of our members to take advantage of ASME training seminars and short courses to maintain your competitive edge and employability in a buzz word filled marketplace. Perhaps the most lasting lesson that the information age will yield to our industry, is that it is not just the information you can get, but truly the information you can integrate that determines an engineers value to the fast moving workplaces of the twenty-first century.

In closing this month, let me say that in our technological society engineering cannot disappear, but the kind of engineer that the future defines will only vaguely resemble those of the past. This is evolution. And this may or may not be progress. Nonetheless, I choose to look for how we may put our new tools to use in the marketplace of the future in a way that will provide for a healthy profession for years to come. See you at the Top!

Small Business Report

by Eric E. Worrell, P.E., Small Business Committee Chair

In October, I mentioned small business initiatives at the ASME National Level. This we'll take a look at ASME Region IX efforts.

In this newsletter, you have seen what San Francisco Section has going for small business. Our neighbor to the south, Santa Clara Valley Section is kicking off their efforts on October 17, with Patent Attorney Steve Beyer's talk on "Patenting Your Invention." On November 12, Elza Minor, Director of the Small Business Development Center in Sunnyvale will discuss SBDC programs. (In November, this Small Business Report will talk about SBDC offerings and Small Business Incubators in the Bay Area.)

Small Business outreach and support efforts in Region IX are being led by Region IX Industrial Relations Chair Joann Heberer <jheberer@guidant.com>, and Region IX Professional Development Chair Fred Barez <barezf@sparta.sjsu.edu>.

At the August 3 Regional Operating Board Meeting, a Small Business breakout section discussed, ways to better serve ASME members in small business and to connect them with other small business support, such as small business partnerships in NIST. Feedback from local section Industry Breakfasts is also being used to guide efforts. Keep and eye out for details on **Region IX Small Business Forums** in Los Angeles on December 7, 1996 and in the San Francisco Bay Area on April 5, 1997.

On the professional development side, Fred Barez has been working hard to provide **affordable and accessible continuing education programs** for Region IX members. Check the right column for details on the courses planned at the time of this writing

If you missed the **September 25 Section Meeting**, you missed a great talk by Attorney Robert Lueck of Boornazian, Jensen and Garthe in Walnut Creek. Key points follow:

In the 16 years since he began specializing in construction and insurance defense litigation, Bob has been close witness to increasing litigiousness of our society. In the early 70's, it was very difficult to get an engineer and other professional to testify against a colleaugue. Now we have engineers specializing in litigation advertising their services while the working engineer must carefully practice "risk avoidance" to avoid the trap of an unintended meaning in the wording of a contract.

Bob emphasized care in wording and performing contracts to avoid legal risks ranging from "ordinary negligence", which requires no expert to recognize, to "negligence per se" which allows a finding of negligence for practically any failure to adhere to even a small point of law, code, standard or regulation regarding engineering practice. Especially with building codes, economic constraints conflict with the need to check details carefully to guard against negligence per se. In some cases, grandfather clauses give some protection. In others, products will be measured against non-mandatory, non-governmental standards.

Carefully define the service that you are to perform. Make it clear who agreed to what. If the firm offers a service that is not part of a given contract, the contract should detail that exclusion. In joint ventures and subcontract situations, clear language to assign or indemnify against liability risk needs to be included. Contract and insurance paperwork has to be complete before work starts for this language to be valid.

Language should be tempered to avoid "warranty language" that promises compliance with a given standard as opposed to meeting a prevailing standard of care. For example, use "observe" or "monitor" instead of "inspect", "supervise"or "certify". Exceptions need to be in the contract, not a note or addendum on page 21 of the plans. Document decisions and communications.

In summary, avoid lawyers when you can, but be aware that an ounce of prevention beats a pound of cure — budget a contract review early.

At the time of this writing, the Small Business Web Page is still under construction, having not been ready before my drive back to Maryland for my 20 year high school reunion (some surprises, a lot of fun.) Keep eyes peeled on the Section Page for an active link or drop me an e-mail for the address. As always, if you have comments or input for small business activities, this column or the small business web site, please contact me at:

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Affordable and Accessible Continuing Education comes to Region IX!

Contact Fred Barez at Tel: 408-924-4298 e-mail: barezf@sparta.sjsu.edu if you are interested in any of the following Region IX Professional Development Courses. For updates, check the Region IX Calendar on the Web at:
http://www.primenet.com/~asmer9/.

- All courses are from 9:00AM to 4:00PM.
- Fee schedule is $60 for members, $90 for non-members and $20 for students.
- All San Jose courses are at San Jose State University except otherwise noted.
- All Los Angeles courses are at Loyola Marymount University except otherwise noted.

PD9-963 **PC Based Solids Modeling**
(see attached insert)
PD9-964 **PC Based CAD/FEA for Mechanical Engineers**
(see attached insert)
PD9-965 **Management Skills**
Los Angeles 23 November 1996
PD9-966 **Vibration-Based Semiconductor Product Characterization**
San Jose 7 December 1996
PD9-977 **Microprocessors for Mechanical Engineers**
San Jose 25 January 1997
PD9-978 **ASME Codes & Standards Process Overview**
Los Angeles 1 February 1997
PD9-979 **ISO 9000 Quality Standards**
San Jose 8 February 1997
PD9-9710 **Electronics for Mechanical Engineers**
Los Angeles 29 March 1997

Employment Opportunities

Inhale Therapeutic Systems

Inhale is currently seeking Product development Engineers to design and develop dry powder drug delivery systems. You will design injection molded, stamped metal and other high-volume process parts, using expertise in CAD, with 3-D (ProE) highly desirable. Requires a B.S.M.E., with a M.S.M.E. preferred, plus 5-7 years of demonstrated experience. Please send/fax resume to:

Inhale Therapeutic Systems
Attn: Human Resources
1060 E. Meadow Circle
Palo Alto, CA 94303
FAX: (415) 354-0701

EBMUD

EAST BAY MUNICIPAL UTILITY DISTRICT

ASSOCIATE MECHANICAL ENGINEER
$4903 - $5959

East Bay Municipal Utility District has one current opening for an Associate Mechanical Engineer in the Design Division. This position requires knowledge of mechanical engineering principles, practices and methods, extensive experience in engineering planning, design, construction, and/or operation of mechanical systems; specification of process and control systems related to water or wastewater treatment and distribution; and experience in project management including schedule and project cost control. Registration as a Professional Mechanical Engineer in California and four years of mechanical engineering experience are required.

For application materials, contact EBMUD, Recruitment and Classification before October 11, 1996:

EAST BAY MUNICIPAL UTILITY DISTRICT
Recruitment and Classification Section
375 - 11th Street
Oakland, CA 94607
(510) 287-0735

College Corner

SFSU

Greetings from San Francisco State. Classes are running at full-steam now, and with our first meeting behind us, so is our chapter of ASME. October looks to be busy, with the Young Engineers Forum, the Autodesk Tour, and the E.I.T. exam all scheduled this month. We are also working to get teams together for the National Design Contest (For the first time in years!), and the Human Powered Vehicle competition. We are working hard, and having fun! See you here again next month.

Chair: John Lefors (415) 564-3466

The semester has started well for the U.C. Berkeley Student Section. At the beginning of the semester we were very active recruiting incoming students as members, so much so that we depleted our supply of membership applications twice. The astounding attendance at our first meeting is evidence of our efforts. We hope to continue this trend, and have planned many activities to promote involvement in ASME. Our plans include social events with the Society of Women Engineers, Pi Tau Sigma, Tau Beta Pi, and Mechanical Engineering Professors as well as industry tours to local companies. With a little work, our student section should flourish and be a great benefit to Berkeley students.

Chair: Paul Krueger (510) 845-9795

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From the North

Take **101 South** to **North San Pedro Road** exit.
Turn **LEFT** on Merrydale Rd.
At the first light, turn **LEFT** to North San Pedro Road.
Turn **LEFT** at the light on **Civic Center Drive**.
Follow Civic Center Drive past the Civic Center and the lagoon.
Turn **RIGHT** onto **Mclnnis Park way**.
(If you cross railroad tracks, you have gone too far.)
Autodesk Corporate Headquarters on the **RIGHT** just past Embassy Suites.

From the South and San Francisco International Airport

Take **Highway 280** to **Highway 280**
Follow signs to the Golden Gate Bridge
Highway 280 becomes **19th Avenue** and **Park Presidio**.
Continue straight on **Park Presidio** to the **Golden Gate Bridge** and **101 North**.
Take **101 North** to the **North San Pedro Road** exit.
Go EAST on **North San Pedro Road**.
Turn **LEFT** at the light on **Civic Center Drive**.
Follow Civic Center Drive past the Civic Center and the lagoon.
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