



**The American Society of
Mechanical Engineers**

Central Oklahoma Section Newsletter

Volume 4, Number 5, January 8, 2003

The Section is located at: Oklahoma
Engineering Center, 201 Northeast 27th
Street, Oklahoma City, OK 73105

The Central Oklahoma Section Newsletter is
nominally published nine times per year to
convey monthly meeting dates, meeting topics,
section activities, and/or other ASME
information to its membership.

***** Announcement: January Meeting with the Oklahoma AIAA Section *****

**Speaker: Mr. Ian Arbon, ASME Distinguished Lecturer, "Renewable Energy and Sustainability"
Thursday, Jan. 23 Oklahoma Engineering Center, 201 NE 27th St., OKC**

As we become increasingly aware of the way in which emissions from our activities affect climate change and the environment, there is an understandable tendency to see "renewable energy" as the universal panacea for all of the environment's ills. Mr. Arbon is certainly not intending this lecture to in any way denigrate renewable energy; like many professional engineers, he believes that by wholeheartedly supporting and encouraging renewable energy in all of its forms, we are taking the moral 'high ground' in the protection of our environment. Ian believes that there is a lucrative future arising from the further implementation of renewable energy systems.

Ian will discuss how engineers must be pragmatic and realistic. He also points out that the further implementation of renewable energy systems is fraught with difficulties, with targets that are not reasonably achievable no matter how politically or environmentally desirable they may appear. He stresses that our goal should be 'sustainability' rather than 'renewable energy' per se, and this in terms of society as a whole, not simply as relating to the environment. Sustainable development is "a dynamic process which enables all people to realize their potential and improve their quality of life in ways which simultaneously protect and enhance the Earth's life support systems". Sustainable or renewable energy is "energy which is produced from fuels that are renewable in the short term, as opposed to fossil and nuclear fuels, stocks of which are rapidly diminishing and require the passage of millions of years in order to 'renew' themselves". **See page 2 for more information on Ian Arbon's presentation, and make plans to attend this meeting, together with AIAA, on January 23!**

Schedule and Contact Information

Time: 6:00-6:30PM: Registration & Social. 6:30-7:15PM: Catered Meal.
7:15-7:30PM: Section Business & Introductions. 7:30PM: Program with Mr. Ian Arbon.

Cost: \$10 for Sr. Members and Guests, \$5 for Student Members (students please bring your ASME membership card).

PLEASE PLACE RESERVATIONS BY 12:00PM (noon) TUESDAY, January 21

E-Mail Reservations:	Frank Parker	parkerfj@illinoisalumni.org
OKC/Norman/Edmond/Metro Area:	OU-AME Office	(405) 325-6772
Stillwater/Enid/Ponca City/Perry:	OSU-MAE Office	(405) 744-5900
Lawton/Duncan/Chickasha:	Curtis Vickery	(580) 251-3573
Students:	Place reservations at your respective university's ME/MET department office.	

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Additional January Meeting Information



In his lecture, Mr. Arbon discusses the impact of human activities to the environment since the industrial revolution (destroyed forests, top soil erosion, contaminated waterways, depleted ozone layer, acid rain, CO2 emissions, etc) and their consequences. Ian then discusses how overcoming these problems, for example, by promoting renewable energy, will help environmental problems in the future. Ian talks about how it is not enough to utilize as much renewable energy as we can, but to be truly sustainable, we need to look at the total energy cost and overall greenhouse emissions of the manufacture and installation of the renewable energy equipment. Mr. Arbon makes an analogy to the Nuclear industry, discusses how we should not make the same mistakes with renewable energy, and how the ecological impacts of the various renewable energy sources (which range from the trivial to the potentially serious) need to be considered. In particular, this lecture focuses on concepts such as Corporate Social Responsibility (CSR) and the "Triple Bottom Line".

Mr. Ian Arbon is a Chartered Mechanical Engineer (CEng) in the UK and a Registered Professional Engineer with FEANI (Eur.Ing). In addition to his engineering qualifications, he holds an MBA degree from the University of Glasgow Business School in Scotland and an MS in Renewable Energy Technology from APU in Cambridge, England. He is currently a Doctoral candidate at APU, also in the field of Renewable Energy and Sustainability. Ian has been active in this field for over 30 years in corporate, industrial, and consulting capacities, has authored numerous peer-reviewed publications and received achievement awards. Ian is an ASME Fellow and has twice served as Chairman of the UK & Ireland Section.

Ian is also a Fellow of the Institution of Mechanical Engineers, the Institute of Energy and the Institute of Refrigeration. Ian is the author of "The Design and Application of Rotary Twin-Shaft Compressors in the Oil and Gas Process Industry", published by MEP in 1994 and co-author of "Process Fan and Compressor Selection", also published by MEP, in 1996. In addition, he has contributed numerous technical papers for conferences and seminars, particularly on the subject of renewable energy and energy-from-waste.

→ ATTENDEES ARE ELIGIBLE TO RECEIVE 1(one) PDH or 1/10th-CEU! ←

NATIONAL ENGINEERS WEEK 2003: NEW TALENT AND FRESH FACES



Vitality and diversity will be front and center for **National Engineers Week 2003** with the launch of **The New Faces in Engineering**, a new program that will spotlight the outstanding contribution's of America's youngest professional engineers. **National Engineers Week will be February 16-22, 2003.**

National Engineers Week activities target students in an effort to expand the potential ranks of "the engineers of tomorrow." For the National Engineers Week Committee, the coalition of engineering societies and corporations that sponsor the week's activities, the New Faces of Engineering program is a logical extension of those efforts and a chance to showcase the exciting new talents that epitomize the dynamic innovations and advancements that are engineering.

ASME International President Susan H. Skemp encourages recruitment of girls and young women to the engineering profession. Says Susan: "As engineers and women we must be committed to encouraging young girls to consider engineering as a career." **Susan has been involved with the Girl Scouts** organization to introduce engineering and technical careers to Girl Scout youngsters. "I encourage you to conduct the same program in your hometown by contacting your local Girl Scout organization. This effort is in conjunction with "Introduce A Girl to Engineering," which has been sponsored by the National Engineers Week organization over the past two years." See www.eweek.org for more Engineers Week information.

Oklahoma National Engineers Week Events

Engineering Fair: The Oklahoma Engineering Foundation sponsored **Engineering Fair** offers 6th-12th grade students approximately 250 **hands on** science and engineering related exhibits. In addition are a number of booths and displays of engineering and technical societies and engineering colleges. Students may also enter a number of engineering related contests, and interact with professionals about the wide range of engineering and technical careers. **The Engineering Fair will be held Wednesday, February 19, 2002, 9:00 a.m. to 3:00 p.m., at the Omniplex, N.E. 52nd Street @ Martin Luther King Blvd, Oklahoma City.** Contact Alicia Helsley, Oklahoma Engineering Center at (405) 528-1435 for more information.

Engineer for a Day: The **Engineer for a Day** program is designed for 11th -12th grade students who are interested in pursuing engineering or technical careers. A number of interested student participants have already been identified. **Would your company be interested in sponsoring and hosting a student for a one-day tutorial in engineering practice?** Students visit the company, see what engineers and technicians do, then later attend the All Engineering Societies Banquet. Contact Mr. Jack Snoddy at jack.snoddy@tinker.af.mil for more details on sponsorship and/or participation.

All Engineering Societies Banquet: The annual Engineers Week Banquet will serve as our February ASME Central Oklahoma Section meeting. **It will be held Tuesday, February 18 at the Tinker Air Force Base Officer's Club.** To be recognized at the Banquet are student participants in **Future City, MATHCOUNTS, and Engineer for a Day** programs. The speaker will be Captain Gary F. Chevez, a United States Air Force officer associated closely with the F/A-22 fighter program. Banquet tickets are \$18 apiece and may be purchased at the Oklahoma Engineering Center, phone (405) 528-1435.

Successful Job Hunts Start at ASME's Career Center

ASME members wanting to explore the job market or get career advice have an advantage. **ASME's Career Center**, available via www.asme.org, features a job board that can help pinpoint the most interesting ME jobs while avoiding unproductive searches that turn up hundreds of near misses. **The ASME Jobs Database is targeted specifically for mechanical engineers.** This means, compared to general career sites like *Monster* or *Hot Jobs*, you may find fewer postings, but higher quality jobs and a better fit overall.

Consider posting your resume online to guarantee maximum impact; your resume will be available to hundreds of prominent companies recruiting for mechanical engineers. Even if you are not actively looking, posting your resume is an excellent way to "feel out your industry." Potential employers searching for particular skills can review your resume and contact you directly. If you don't receive the responses you expect, fine-tune your resume with new resources now available on the Career Center through the JobCoach.

The ASME JobCoach is a content-rich, career management tool that offers a resume writing service as well as articles on salary, resumes, interviewing, benefits, and stock options. It also features *AskCoach*, a self-service help desk that uses natural language to answer member questions on a range of career-related issues, one-on-one career coaching and more. Check it out for yourself at <http://www.asme.org/jobs>.

Editor's Note: Please let me if your company has job openings. We can publish job notices in this Newsletter. Our Newsletter reaches over 450 engineers throughout the United States.

CALL FOR PRESENTATION ABSTRACTS

23rd Oklahoma AIAA/ASME Symposium

Saturday, March 8, 2003

University of Oklahoma, Norman



American Institute of Aeronautics and Astronautics

Oklahoma Section



The American Society of
Mechanical Engineers

Central Oklahoma Section

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ABSTRACT

The 23rd annual Oklahoma AIAA/ASME Symposium will be held at the University of Oklahoma in Norman on Saturday, March 8, 2003. The purpose of the Symposium is to encourage communication among the engineers of Oklahoma's universities and industries. You are invited to participate by helping to organize a session, chairing a session, presenting a paper, and/or attending presentations to listen and discuss the papers with the authors. The symposium provides a great opportunity for students to attend and present papers. Students receive a reduced registration fee. The Symposium will have parallel morning technical sessions and will end after a luncheon with an invited speaker.

A one page abstract must be submitted by **Monday, February 3, 2003**, to be included in the meeting program and the Symposium proceedings. Presentation durations will be about 15 minutes (including 12 minutes for presentation and 3 minutes for questions). This is a sample format of the text for an abstract. The abstract should be submitted in 12 point, single-spaced Times New Roman font with right and left justified margins. The lines are to be 6 inches long with 1.25-inch right and left margins and 1-inch top and bottom margins. The abstract can be no longer than one page. The title is centered 12 point, all caps, single-spaced bold Times New Roman. Acknowledgments may be indicated in a footnote. Leave two lines between the title and the authors. The names, address, phone and e-mail address are centered 12 point single-spaced Times New Roman. Please indicate membership in AIAA and ASME with a footnote. Professional titles are not required. Leave two lines between the author information and the centered, all caps, "ABSTRACT." Please leave one line between "ABSTRACT" and the text. E-mail attachments are the preferred submission mode.

*This work has been supported by Generous, Inc.

**Member, AIAA and ASME

Submittal Information:

Send Abstract by e-mail as MS Word attachment to lcavins@ou.edu. Please use "ABSTRACT" in the subject line.

Hard copy submission should be addressed to Ms. Lawana Cavins, 212 Felgar Hall, 865 Asp Avenue, University of Oklahoma, Norman, OK 73019, Fax: (405) 325-1088.

For additional information, contact Ajay Agrawal at (405) 325-1754 (aagrwal@ou.edu) or Kumar Parthasarathy at 405-325-1735 (rparthasarathy@ou.edu)

Chair's Corner

Dear ASME-Central Oklahoma Section Members:

I would like to first wish all of you a belated Happy New Year. December is typically a busy month for us all. However, the events involving our Section during those 31 short days made the year's end seem to go by in a flash. Our first main event was a very interesting presentation on the engineering activity in the **FAA's Flight Inspection Maintenance Engineering Branch**, made by **Mr. Michael Colson, PE**. Mike's briefing showed us the great technical skill and creativity currently practiced in a small, yet important branch of our government. Although my main vocation is airframe design and analysis, the most interesting part of the presentation for me was how Mike's group managed to design and fit a more reliable equipment cooling system in one of their monitoring fleet's airplanes. We would like to thank Mike Colson for his excellent presentation.

December's second main event was the **ASME Landmark Ceremony in Perry Oklahoma** on the 16th of December, which honored **Ed Malzahn** and **The Charles Machine Works** for their ingenuity and achievement in the field of mechanical engineering. The article below provides additional details on this ceremony. However, I would like to note that the trencher developed by Mr. Malzahn is one example of a technology that significantly impacts our lives without many of us realizing it. Since 1950, it has made indoor plumbing and other domestic services now considered necessities for our homes and businesses reasonably affordable. It's ironic that the hallmark of a truly innovative design is how much we take it for granted.

Finally, much of last month's effort went toward arranging the details for our upcoming Section Meeting on Thursday, January 23rd. It is our **Distinguished Lecturer Program** for the 2002-2003 year and the subject will be **Renewable Energy and Sustainability**. Our truly distinguished lecturer for this topic will be Mr. Ian Arbon, who is a renowned expert on this subject. Details on this lecture and of his qualifications are given in the preceding pages of the newsletter. **The presentation's technical content qualifies it for 1.0 PDH Continuing Education Credit for any attending Professional Engineer. Please be sure to make your reservations early**, as we are expecting a lot of outside interest for this event. The seating capacity is limited and we would like to ensure a significant number of places are set-aside for the local ASME and AIAA membership.

Hope to see you all on Thursday, the 23rd of January.

Frank Parker -- Chair

Charles Machine Works Landmark Ceremony Memorable

Below is the official ASME news release acknowledging Charles Machine Works, Inc. (Ditch Witch) Landmark ceremony held December 16, 2002. **We want to express our sincere thanks to Mr. Ed Malzahn and the Charles Machine Works family of employees for their gracious hospitality.** We also thank Mr. Burton Dicht (ASME Southern Regional Office), Mr. Brian Dietz (Region X Vice-President), Mr. Howard Conlon (Region VI Vice-President), and Ms. Susan Skemp (ASME International President) for their help with and attendance at this important event.

PERRY, Okla., Dec. 16, 2002- As the first mechanized, compact service-line trencher developed to replace manual digging for underground water lines, ASME International will designate the **Ditch Witch® DWP Service-Line Trencher** a historic mechanical engineering landmark. A ceremony commemorating the designation was held today at the Ditch Witch Museum & Heritage Center in Perry, Okla.

While large trenchers did exist for digging big trenches for distribution lines, hard manual labor was still required to produce smaller trenches. That's when Edwin "Ed" Malzahn, a mechanical engineer and native of Perry, Okla., conceived the idea that a more compact, inexpensive digging machine could replace digging with picks and shovels. In 1949, Malzahn and his father Charles produced the first compact trencher at the family business, the Charles Machine Shop.

The name DWP, stands for Ditch Witch trencher-Power, which distinguished it from a companion machine that relied on a ratcheting, manual operation for mobility. An air-cooled 7-horsepower engine powered the DWP's simple but unique design, giving the trencher mobility and power for the working end. Small 2-piece buckets with sharp finger-like edges were mounted on a vertical chain to gouge out chunks dirt. The buckets were attached in sequence onto an endless moving chain that carried them down a ladder-type mechanism to chew out chunks of soil, then upward to dump the "spoil" in neat piles on the ground as they began the downward decent to bring up more dirt.

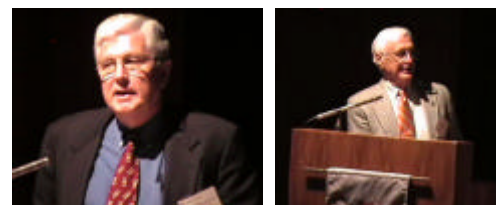
While seated on the machine's contoured metal seat, the operator used simple levers to raise and lower the digging device. A 4-inch wide trench with a digging depth of thirty inches was the goal.

"An engineer's ability to bring his dream to reality is always dependent upon the effort and support of his associates and colleagues. It's the team that wins the game not just the quarterback," said Malzahn. The DWP paved the way for the creation of a worldwide trenching-products industry, its machines used for the installation of underground utilities including telephone, cable-TV and data, and fiber-optic cables.

Susan H. Skemp, president of ASME International, presented the commemorative bronze landmark plaque to Ditch Witch® creator Ed Malzahn, P.E., president and chairman of the board of Charles Machine Works, Inc. "The Ditch Witch Trencher is an important example of how engineers rise to the challenge of making our lives better by improving methods, processes and technology," said Skemp.





The DWP Trencher Ceremony Display



Speakers Ed Reynolds and Ed Malzahn.

Future ASME-Central Oklahoma Section Events

Date	Location	Program Topic and Speaker
Jan. 23, 2003 (Thursday)	Oklahoma Engineering Center, 201 NE 27 th St., OKC	Joint Meeting with Oklahoma AIAA Section Dr. Ian Arbon, ASME Distinguished Lecturer Topic: "Renewable Energy and Sustainability"
Feb. 16-22, 2003		<p style="text-align: center;">National Engineers Week 2003</p> Engineering Societies Banquet, Feb. 18 (Tuesday), Tinker AFB, OK, Speaker: Capt. Gary Chevez Engineering Fair, Feb. 19 (Wednesday), Kirkpatrick Center Omniplex, OKC, 9:00AM-3:00PM
February 2003		<p style="text-align: center;">Regional MATHCOUNTS Competitions</p> Feb 8: Central Okla. Region. Feb. 15: Southeast Okla. Region, Northwest Okla. Region, Southwest Okla. Region. Contact Alicia Helsley, Okla. Eng. Center (405) 528-1435 for more information. Please volunteer to help!
March 8, 2003 (Saturday)	University of Oklahoma Norman, OK	<p style="text-align: center;">AIAA-ASME Symposium featuring presentations from Industry and Academia from across Oklahoma. Please submit an abstract and present your work!</p>
March 27, 2003 (Thursday)	Okla. Engineering Center 201 NE 27 th St., OKC	<p style="text-align: center;">March Section Meeting Speaker: Mr. Daniel W. Berndt, P.E., C.E.M. Topic: "Hydrogen Energy Storage"</p>

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