

THE WAVEFORM



The Newsletter of **SME**,
Society of Manufacturing Engineers
Front Range Electro-Mechanical Chapter No. 354
May 17, 2005 Volume 10 Number 5

Join Us For A Tour:

“APT”

Advanced

Product

Testing

***“An Environmental Test
Lab Facility”***

Tuesday May 17, 2005

What It Is: APT of Longmont is a fully equipped, environmental test laboratory, employing the latest in dynamic and climatic testing services to perform evaluations on products and package systems. APT can reproduce any natural or unnatural disaster to help you design products and packaging tough enough to withstand the challenges of the global trade market.

APT has been engaged in out-sourced product testing since 1995, and has experience across a wide-variety of markets, including computer & electronics, aerospace, military/defense, medical, food & beverage, and consumer.

What Will You See:

DYNAMIC TESTING – Vibration, Shock, Impact, Compression.

CLIMATIC TESTING – Temperature, Vacuum and Altitude Chambers, HALT/HASS capability.

Who Is APT: APT employs a staff with over 150 years of combined experience with degrees in mechanical and packaging engineering that provides expert assistance throughout your product design cycle.

Not only does APT provide a one-stop shopping solution for all your environmental testing needs, they also provide package design consultation and development. Test methods are designed, built and utilized in accordance with industry standards such as, ASTM, ISTA, SAE, IEC, MIL-STD, RTCA, UN/DOT, HAZ-MAT, NEBS and other customer supplied specifications.

Win a FREE LUNCH, see page 5

From The Chair – What's in Your Tool Belt

I find that my memory isn't what it used to be, so I'd better address this topic while it's fresh in my mind. I've just returned from Six Sigma Green Belt training. It was a pretty thorough immersion in a long list of improvement tools, so long a list in fact, that it would be unrealistic to think that I've become an expert in any of them. However, what I have become is convinced that virtually no business or manufacturing process cannot be improved. Those who know me well know I'm a big free market advocate and in this case I think the free market has developed a lot of tools, some more useful than others, but virtually all having some value in the right circumstances. The challenge is identifying and becoming proficient with the tools most relevant to your particular circumstances, but in every case looking for ways to eliminate waste and reduce variability. As I consider this, my mind is drawn back to a recent manufacturing convention in Chicago. One session presented a case study of a product that had been outsourced to an overseas supplier. After encountering several problems related to increased supply-chain length, the customer decided to try domestic production one more time. Through the aggressive use of technology and lean principles they were able to build a compelling business case for domestic production. Please don't misconstrue this to think I'm against all foreign outsourcing. Some commodities truly do belong overseas. But I think that far too often outsourcing is just an admission that we don't want to do the hard work necessary to stay competitive. I submit the real challenge is to build a legitimate business case, based not on what is, but what can be when aggressive improvement efforts are brought to bear. Last year as part of the SME annual meeting we toured the Mazak facility in Florence, Kentucky. Mazak being a global manufacturer of machine tools, this was a facility well worth seeing. In addition to an intriguing tour, we were also exposed to Mazak's business philosophy. They are strongly committed to the idea of building near the market. So products for the U.S market are built in the U.S. We heard unequivocal statements from Mazak management that, though the appropriate use of technology and improvement tools, they can compete with anyone. I suggest that manufacturing professionals can learn from this. Individually, do we regularly add to our tool set? Collectively, are we prepared with the tools to compete globally? If not, what are we going to do about it? With Father's Day approaching I'll admit that while I really enjoy receiving tools as gifts, sometimes I can't wait and so get a little self-indulgent. Maybe we all ought to practice a little professional self-indulgence.

Cheers,

Don Larsen, Chairman
don.larsen@mcdata.com
720-558-3337

SME & CSEF Report

The 50th annual Colorado Science and Engineering Fair (CSEF) was held April 6 thru 9. Over 300 participants from 13 regions around Colorado, in the 6th thru the 12th grades came to CSU in Fort Collins.

Representatives of our chapter, among about 50 other organizations, judged for "Special Awards" on the 7th of April. Our chapter allocated up to \$700 in scholarship prizes (in the form of U. S. Savings Bonds) for the participants' exhibits (projects) that best exemplified manufacturing principles. Assisting me in the judging were Bill Doty, FSME, and a friend of our chapter Geoffrey Campbell, an electronics engineer, who attended our tour of NREL in March. Serving as "Grand Award Judges" from our chapter were Don R. Boyle, BS, Keith Motyl, PhD, and Maxine P. Verbit, AAS. We look forward to their report.

In the Junior Division we chose two awardees. Rachel Washam, 6th grade at St. John the Evangelist School in Loveland, for her project "Can I Make a D-Size Battery That Will Last Longer Than an *Energizer* D-size Battery?" We awarded her a \$200 U. S. Savings I-Bond scholarship because she learned from failure and was motivated to continue materials investigation. Dominic Fuller-Rowell and Tim Cowley, 8th grade at Summit Middle School in Boulder, for their project "Alternative Transportation Through Magnetic Levitation and Propulsion". We awarded each a \$100 U. S. Savings I-Bond scholarship because they developed and built a model, and gained an advanced appreciation of physics and mechanics.

In the Senior Division we made one award, to Mr. Chris Messick for his project "Point and Click, Literally". (A glove that serves the function of a computer mouse.) We awarded him a \$300 U. S. Savings I-Bond scholarship because we were impressed that he conducted thuro development, and provided a functional prototype that considers the user. Actually his project in the Engineering category overlapped into Behavioral Science. It had a human factors component; he conducted basic usability tests. Your author must point out that I did not unduly influence the selection as the other two judges first proposed him as winner. Mr. Messick is in 10th grade at Sargent High School in Monte Vista (west of Alamosa).

The participation of our chapter in the CSEF is one tangible activity that engages young people.

If you would like to know more, I have a few of the 50th anniversary program booklets, also go to csef.colostate.edu/ for further information.

(Continued on page 5)

May Bulletin Board

Chapter 354 SME Business Meeting

Advanced Product Testing 1601 Dry Creek Drive, Ste 2000 Longmont, Colorado

Executive Committee Meeting – 5:30 -6:30
Committee Members ONLY, please

Date TUESDAY, May 17, 2005

Time 6:15 – 6:30 PM Social/Networking

6:30 – 6:45 Chapter Business Meeting (Announcements)

6:45 – 7:30 Let's Eat: Cold Cut Buffet

7:30 Presentation

Special Instructions: Reservations will be accepted until Friday May 13th
Please place your reservations with
Chuck Otoupalik, 303 939 5862, cotoupalik@ball.com

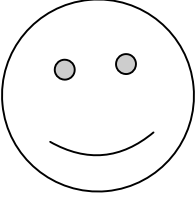
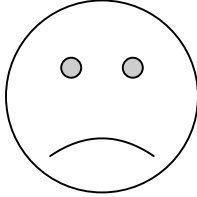
Dinner Price Members - \$5
Non-Members - \$7
Seniors(60+)/Students/Unemployed - \$5
Cash or check only

DIRECTIONS:

From the NORTH--- I 25 South to Exit 236, West, toward Longmont. Continue West on Hwy 119 (Ken Pratt Blvd after crossing Main St (Hwy 287)). Turn right (North) onto Hover St. Make an immediate left onto Clover Basin Dr. Turn left (South) onto Dry Creek Dr. It is also possible to take Hwy 287 South into Longmont.

From the SOUTH--- I 25 North to Exit 236, West, toward Longmont. Continue West on Hwy 119 (Ken Pratt Blvd after crossing Main St (Hwy 287)). Turn right (North) onto Hover St. Make an immediate left onto Clover Basin Dr. Turn left (South) onto Dry Creek Dr. It is also possible to take Hwy 287 North into Longmont.

SME Chapter 354, Program Calendar **2005**

<p>January 18 Manufacturing At Terraforming Levels CU Civil Engineering Lab HI-g Centrifuges</p>	<p>February 15 Shawn Mitchell State Legislator Presentation on State of Manufacturing in Colorado</p>	<p>March 15 National Renewable Energy Labs Tour</p> <p>No Rocky Mtn. Mfg & Design Show this year.</p>
<p>April 19 Bryan Powers Tamur Engineering Dancing Your Way To A Successful Product Launch</p>	<p>May 17 StorageTek Advanced Product Testing Facility</p>	<p>June 21 Picnic: Willow River Park, Longmont, possible musical accompaniment.</p>
<p>July</p> <p><i>Gone Away to Play?</i></p> 	<p>August</p> <p><i>Back To Work?</i></p> 	<p>September 20 tour</p>
<p>October 18 presentation</p> <p>Chapter Officer Nomination</p>	<p>November 15 tour</p> <p>Chapter Officer Election</p>	<p>December 13 Christmas Presentation</p> <p>Chapter Officer Installation</p>

SME & CSEF Report (continued from page 2)

If you are interested in getting involved, including being a judge next year, please let me know. Also I am investigating other ways to help youth in science and engineering education, and possibly, ultimately, manufacturing engineering. Thus, if you have any experience with *MESA*, please contact me.

Andy Keller, CPE
Human Factors Engineer
Secretary, Chapter 354

303 772-4801 9 am – 9 pm andy@humanfactorsdesign.biz

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Notes from the Program Chair:

Your Program Chair, George Bigot will be out of town during June. If you can help with the organization of the Picnic please call George at 303 652 1461, or send an email to gbigot@attglobal.net. Alternative contact is Bob Cotton at robert.c.cotton@comcast.net or, 303 651 6563.

What's Happening?

SME Chapter 77

Contact Gabriel Chihoski, Chapter Chairman, gchihoski@earthlink.net

IIE Chapter 32

Contact Don Pritchard, VP, Programs, donpric@frii.com

ASQ

Contact Jim Wilkinson, Boulder Section Chair, jim@veritek.com

APICS

For Education contact Charlie Yett, Dir Education: <mailto:classes@apicsnoco.org>

For Programs contact Bob Forshay, VP Programs: <mailto:VPPPrograms@apicsnoco.org>

CU-Denver Continuing Engineering Education & CU at Interlocken, Programs

Colleen Anderson, Marketing/Program Coordinator

Voice: 303-556-4907 Fax: 303-556-6688

E-Mail csanders@carbon.cudenver.edu

Web: www.cudenver.edu/engineer/cont or, www.cu.edu/Interlocken



The first chapter member
age 40 or under to call
720-558-3337
wins a free lunch.

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Broomfield, Colorado 80020*

<p align="center"><u>2005 Chairman</u></p> <p>Don Larsen McData Corp. 720 558-3337 w don.larsen@mcdata.com</p>	<p align="center"><u>Chair Elect</u></p> <p>Vacant</p>	<p align="center"><u>Treasurer</u></p> <p>V. Stan Moeller, CMfgE StorageTek 303 673-2321 w 303 665-4289 h moellvs@louisville.stortek.com</p>	<p align="center"><u>Secretary</u></p> <p>Andy Keller, CPE Human Factors Engineer 303 772-4801 Fax 303 772-9229 keller@svvi.net</p>
<p><u>Program Director, Acting</u></p> <p>George Bigot TNRC 303 652 1461 w 303 652-2724 h gbigot@attglobal.net</p>	<p><u>Publicity/Advertising</u></p> <p>Roy Silva kathyandroysilva@earthlink.net</p>	<p align="center"><u>Bulletin Editor</u></p> <p>Doug Segura Ball Aerospace 303 533-7380 w 303 469-5584 h dsegura@ball.com</p>	<p align="center"><u>Certification and Reservations</u></p> <p>Chuck Otoupalik Ball Aerospace 303-939-5862 w 303 678-8414 h Fax 303.939.6263 cotoupalik@ball.com</p>
<p><u>SME Headquarters</u></p> <p>313 271-1500 800 733-4763 313 271-2861 fax http://www.sme.org</p>	<p align="center"><u>SME Chapter 354 website</u> http://chapters.sme.org/354/homepage.htm</p>		