Attend the Joint Engineers Conference!

Doug Brekke, PE, President

The Joint Engineers Conference will be held November 13 and 14, 2003 at the Red Lion Colonial Hotel in Helena. The conference features continuing education, a trade show, and board meetings for the sponsoring societies. The MSE board will meet Thursday evening at 9:00 p.m. We meet later in the evening to allow MSE members to attend other society meetings. I strongly encourage all MSE members to attend our board meeting. We are very interested in your ideas for strengthening our profession.

The Joint Engineers Conference is an ideal opportunity to obtain the continuing education credits required for Professional Engineers license renewal. The two-day conference provides 14 continuing education hours. Everyone with an interest in engineering related topics is encouraged to attend. We especially encourage students and engineers in training to participate. MSE members are asked to encourage young engineers, contractors, and other design professionals to consider attending the Joint Engineers Conference.

The 2003 Joint Engineers Conference will feature the second annual induction ceremonies for the Montana Professional Engineers’ Hall of Fame. MSE will sponsor the Hall of Fame and the Montana State University College of Engineering will host the Hall of Fame. The MSE board has selected Leland J. Walker, P.E. and Paul Schmechel, P.E. as the new Hall of Fame members.


Montana Tech Council

The Montana Tech Council has traditionally supported a lobbyist to represent concerns of design professionals at the Montana Legislature. Membership changes in the MTC have made it impractical to support a lobbyist during the 2005 session.

MSE has traditionally been involved in supporting or opposing bills in the legislature. During the legislative session, bills are often considered and discussed with very little warning. We seek ways to monitor bills under consideration and identify bills that involve the engineering profession. As we discuss options for the future, we seek your comments on how we should proceed.

As we discuss options for the future, we seek your comments on how we should proceed.

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I've personally helped coach teams for a number of years, and it is truly a rewarding experience to try to turn kids on to math and analytical problem solving. That's what we engineers are all about anyway!

Dan Munson, PE, State Coordinator
Welcome back to the new MATHCOUNTS season! New registration packets have just been sent out to 400 Montana middle schools. Last year we had 462 students from 72 middle schools participate, and we are looking for even more participation this year. That's where you come in. Do you have a child in middle school that may be interested in healthy math fun? How about a niece, nephew, or friend in middle school? Sad to say, some middle schools have not shown interest in this exciting and worthwhile program. I bet if you ask your local middle school if they have an active MATHCOUNTS program, you may be surprised by the answer. If they don't have an active program, press on further and ask them why. Some schools are willing, but really need help from parents or friends to assist in coaching a team. How's your coaching ability these days? These middle school kids will give you a run for your money when it comes to solving practical math problems.

I've personally helped coach teams for a number of years, and it is truly a rewarding experience to try to turn kids on to math and analytical problem solving. That's what we engineers are all about anyway! Consider volunteering as a MATHCOUNTS coach this year. It's a perfect way to help shape the next generations of scientists and engineers, as well as to mentor kids along the way.

If coaching is not your bag, stay tuned. We will be asking for your help with our local chapter competitions in February, where you can see in person the power of middle school analytical determination and team building skills. Either way, I challenge all of you to make a difference with a young student, share your knowledge and expertise, and help make Montana MATHCOUNTS the best program around!

Please contact one of the Chapter Coordinators listed below to see how you could help this worthwhile program.

About MATHCOUNTS: The National Society of Professional Engineers started MATHCOUNTS 21 years ago to stimulate the interest in mathematics among middle school students across the country. The program has been endorsed by a number of educational organizations; and continues to receive accolades from students, teachers, and sponsors who have participated in past years. MATHCOUNTS is designed to improve math skills, improve problem-solving skills, and teach the importance of teamwork. It is different from other math competitions in that there is a team component to the scores, and the team works as a group to solve problems in a portion of the competition.
Without our financial sponsors’ support, the MATHCOUNTS program would not exist.

---Continued from Page 2---

Bozeman Chapter
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Fax: 406-994-6105
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e-mail: Sullivan@asimimt.com

Listed below are the 2002-03 financial sponsors of the MATHCOUNTS program. Without their support, the program would not exist.

Advanced Silicon Materials, Inc.
American Linen
Ash Grove Cement
Beaudette Consulting Engineers
Bison Engineering, Inc.
Blackfoot Telephone Coop
CENEX Refinery
Columbia Falls Aluminum Company
Conoco, Inc.
Druyvestein, Johnson & Anderson
Dennis & Phyllis Washington Foundation
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GPD, Gordon-Prill-Drapes, Inc.
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Stelling Engineers
Stillwater Mining Company
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Thomas, Dean & Hoskins, Inc.
Timberwald Sales & Mfg.
UniField Engineering
Van Dyken Engineering
WGM-Engineering Surveying Consultants
Yellowstone Electric Company

THANK YOU!
You make MATHCOUNTS possible.

Wear Analysis for Engineers

WEAR ANALYSIS FOR ENGINEERS
by Raymond G. Bayer
HNB Publishing
$72.00 (hardcover)
ISBN: 0-9664286-5-X

"Compressed product-development cycles and tight budgets often prohibit extensive life testing. Herein lies the value of Raymond Bayer's concise Wear Analysis for Engineers, which provides a methodology for effective use of equations and models to evaluate wear behavior. . . . Bayer's years of experience are revealed in the way he guides the reader through the process of identifying the key factors for different wear scenarios. . . . Plenty of figures, tables, and optical micrographs are provided, which makes for an interesting and easy-to-follow text. . . . Wear Analysis for Engineers is a useful tool for anyone attempting to resolve wear problems." --Tribology Letters

Bayer's years of experience are revealed in the way he guides the reader through the process of identifying the key factors for different wear scenarios. . . .
Put the Brakes on Fatalities Day:
“How Much is a Life Worth?”

“Put the Brakes on Fatalities” NSPE is the founding partner of the Program.

Every twelve minutes a person dies on our roads; last year 42,815 people died!

Our goal is to reduce the death toll on our roadways. NSPE is the founding partner of the "Put the Brakes on Fatalities” program. The 3rd Annual "Put the Brakes on Fatalities Day" is Friday, October 10, 2003.

The goal is to unite the country in achieving one full day of zero traffic deaths by encouraging safer behavior and actions and by promoting safer roadways. "Motor vehicle fatalities are the leading cause of death for all Americans from 6 to 33 years old. Whether as a driver, passenger, pedestrian or cyclist, by working together in a concerted effort, we can make a difference to stop the carnage on our nation's roads," said Mark D. Van Hala, P.E., FES.

The good news is that by taking pro-active steps, the public can greatly reduce the odds of becoming a statistic. "First and foremost, drive as if your life depends on it," Mark D. Van Hala, P.E., FES said. "Driving defensively, obeying the posted speed limits, slowing down in bad weather and in special construction and school zones and not drinking and driving are just a few examples of how drivers can reduce their chances of being in a crash." Other important safety practices include buckling up every time on every trip, using appropriate child safety seats, wearing a helmet when cycling or skating and crossing the street in crosswalks.

October was selected for the new safety observance because it is among the peak months for traffic fatalities. In fact, October 9 was the most dangerous day of the year to be on the road in 1999: 207 people died in traffic crashes according to the National Highway Traffic Safety Administration (NHTSA). February 22 was the safest day to be on the road that year: 50 were killed in motor vehicle crashes.

Put The Brakes On Fatalities Day promotes:

* Safer driving behaviors.

Research by NHTSA shows that lap/shoulder seat belts reduce the risk of fatal injury to front-seat passenger vehicle occupants by 45 percent and child safety seats reduce fatal injuries by 71 percent for infants and 54 percent for toddlers. Yet only 70 percent of Americans buckle up.

Even more troubling, 61 percent of children ages 15 and under killed in motor vehicle crashes in 1999 were completely unrestrained. Another troubling statistic is that 38 percent of all traffic fatalities are alcohol-related. Imagine this: 43 of those 114 people killed every day in traffic crashes could be saved this October 10 if all drivers did not drink and drive.

* Safer driving environments.

Poor road conditions and obsolete designs contribute to more than 15,000 highway deaths annually. Be especially alert this October 10 for dangerous roadway hazards such as narrow roads and bridges, narrow shoulders that end in steep slopes or ditches and intersections that are poorly marked and lighted. Encourage state and local officials to design roadway improvements, such as adding rumple strips, better lighting and highly reflective signs, creating separate turn lanes at dangerous intersections, constructing median barriers or widening lanes.

* Safer vehicles:

In 1999, Americans traveled nearly 2.7 trillion miles in the more than 200 million registered vehicles on U.S. roads. Proper vehicle maintenance plays an important role in reducing crashes. Check your tires for proper inflation pressure, tread wear and alignment. Winterize your vehicle if you live in a cold climate. Replace worn windshield wipers. If your vehicle has antilock brakes, operate them correctly by "stomping and steering" rather than pumping them. If you are buying a vehicle, consider safety devices and safety ratings as a top priority. Check out the NHTSA Web site at www.nhsta.dot.gov for vehicle safety ratings.

For more traffic safety tips and information, log on to the Put The Brakes On Fatalities Day Web site at www.brakesonfatalities.org.

Promote SAFE Driving Behaviors:
Be Physically Sound & Mentally Sharp,
Always Buckle UP,
Pay Complete Attention on Driving,
Follow Posted Signs & Striping,
Maintain Safe Speed for Conditions,
Maintain Safe Following Distance,
Maintain Clear Sight Picture,
Be a Courteous & Conscientious Driver,
Be a Defensive Driver.

We need your help to PUT THE BRAKES ON FATALITIES.

The theme is “Drive as if your LIFE depends on it.” Our emphasis this year is “Slow Down, Buckle Up, & Drive Sober.”
The Resume Pyramid: Building a Great Resume from the Top Down

Deborah Walker, CCMC, Resume Writer ~ Career Coach

If you have experienced writer’s block while trying to construct your resume, you might find it helpful to think of your resume as a three-layered pyramid. All the elements of an effective resume will fit within those three layers.

Layer #1: The Pyramid Pinnacle: Your Job Focus. The top layer of the pyramid is your career focus—the starting point of a great resume. Think of a focused resume as the opposite of a one-size-fits-all resume. An early lesson I learned as a headhunter was that employers are suspicious of candidates whose resumes don’t focus on one career objective. They assume the candidate doesn’t know what he/she wants to do, or that the candidate isn’t really very skilled in either objective. If your career background allows you options for two or more career objectives, that’s great; just make sure that you create a separate resume for each objective.

Layer #2: The Pyramid Midsection: Your Selling Points. The midsection of the pyramid is made up of the selling points that support your career focus. Selling points are all the qualifications that make you a strong candidate for your particular career focus or objective. For example: the selling points of a sales professional might consist of “New Account Generation”, “Major Account Penetration” or “High Volume Closer.” Whatever your career focus, determine the best selling points to prove that you match the qualifications for the job. If you are attempting to cross industry or occupational lines in your next career move, think of your transferable skills as your selling points. Communicating transferable skills allows prospective employers to see your expertise and accomplishments outside the context of your former industry or occupation.

Layer #3: The Pyramid Base: Your Accomplishments. The largest part of a pyramid is its base; likewise, your accomplishments should comprise the largest part of your resume. Like a pyramid’s base, your accomplishments support your selling points, which in turn support your focus.

Your accomplishments illustrate the strength of your qualifications. Quantifiable accomplishments that relate to bottom-line corporate objectives are more significant. If you express your accomplishments as benefits rather than as features, they will appeal more to your readers.

Example

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Developed and implemented 24-hour pricing turnaround.”</td>
<td>“Increased sales closure rate 35% by implementing 24-hour pricing turnaround.”</td>
</tr>
</tbody>
</table>

Thinking of your resume as a three-layered pyramid will help you to break down the complexity of your work history and simplify your resume content into a concise, comprehensive marketing message that will capture the attention of your next employer.

Deborah Walker, CCMC
Resume Writer ~ Career Coach
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Deb@AlphaAdvantage.com
Visit the job-search article archive at www.AlphaAdvantage.com
Call for FREE resume critique.

New SF 330 to Replace SF 254/255

New SF 330 is to replace SF 254/255 A/E Qualification Forms:
• The new forms have been accepted by the Civilian Acquisition Council.
• The expected publication date is September 2003.
• Contractors will only have 6 months to comply.

The SF 330, the new consolidated Architect/Engineering form slated to replace the current SF 254 and SF 255 forms, has cleared one of the last remaining reviews on its way to a scheduled late July, early August publication date. The Civilian Acquisition Council has approved the form, says Don Evick, U.S. Army Corps of Engineers and SF 330 working group member. After Defense Acquisition Council and OMB review, the form will become final. From that time, contractors will only have 6 months to comply.

“Although other agencies may choose to accept the SF 254/255, we have recommended they not do that past the cut-off date. For the Army Corps, this will be a drop-dead date – only the SF 330 will be accepted after the deadline.”

Some of the changes include required organization charts, Section G matrix matching personnel to past jobs, expanded project descriptions, and new profile/function codes.

Evick and other experts in the field will address contractors at GCT’s upcoming conference entitled Transitioning to the SF 330, New Tools and Tactics, September 12, 2003 at the Hyatt Crystal City, Arlington, Va. For registration and CEU information, go to www.gcionline.net/conferences/SF330 or call 800-260-1545.

Please allow 48 - 72 hours for processing.

Some of the changes include required organization charts, Section G matrix matching personnel to past jobs, expanded project descriptions, and new profile/function codes.
The Warning Signs of Career Disaster

Many of us experience recurring dreams. Mine is that I’m driving down the freeway and I can’t read the road signs until I’m right up close. By then it’s too late: I’ve missed an important exit. Fortunately, it’s just a dream. I wake up and all is fine. Unfortunately, many people have trouble reading signs—not road signs, but career warning signs.

A career warning sign is any change that indicates possible career disaster that could result in finding one’s place in the unemployment line. While warning signs may vary according to employment situations, there are four basic warning signs that apply in most employment scenarios.

Warning Sign #1: Your industry is experiencing a down turn. Telecommunications is a perfect example. A few years back telecom was one of the fastest growing industries. Recruiters worked day and night to fill telecom positions at all levels. The first negative indicator was unmet earnings expectations. Those who paid attention left the industry. Persons who practice career management watch the growth trends within their industry and know to leave ahead of the crowd.

Warning Sign #2: Sales are down in your company. While not everyone within an organization is involved with sales, sales levels affect all jobs. When revenues decrease, profits are held steady by cutting costs, which often means cutting jobs. Persons can protect themselves by paying attention to sales levels within their organization.

While not all employees are privy to sales numbers, there are ways of finding pertinent financial information. Public companies must publish financial statements. It pays to take the time to study these documents to uncover your company’s basic financial status.

Employees of non-public companies, even without the benefit of public financial information, can also read the signs of declining sales:

* Work load decline.
* The boss suddenly seems concerned over small costs, like office pens, copier paper etc.
* The Sales Manager was just fired.
* The Sales department is going through reorganization.

Alert employees are sensitive to such indicators. They keep their resume updated at all times and cultivate a growing professional network for potential future job leads.

Warning Sign #3: Management changes. Any management change has the potential of damaging your corporate position. Be watchful during:

* Mergers and acquisitions.
* String of short-term management tenure (i.e. three bosses in two years.)
* Retirement or replacement of Sr. Management.

Wise employees listen closely to new-management rhetoric. How dramatic are his/her promises to shareholders? What’s the new boss’ track record? Does he/she have a reputation as a reactionary, axe-swinging job cutter, or as a strategic long-term planner who views employee reduction as a last resort? The first announcement of new management is the time to cautiously explore outside options.

Warning Sign #4: You’ve lost favor with your boss. While “gut feelings” often are the first warning, some objective indications are:

* A less-than-exemplary performance review.
* No performance-based salary increase.
* Your year-end bonus was much smaller than expected.
* Your input is not requested at planning meetings.
* Your suggestions are ignored.

If you sense your position on the corporate totem pole is falling, trust your gut. When jobs are at stake, yours will be one of the first sacrificed.

These warning signs may seem obvious, but are often sadly ignored by those who fear change. Rather than take action, they lean on false hope that loyalty to the employer will pay off in the end. Those who practice career management never confuse company loyalty with aversion to change. When career-warning signs appear on the horizon, pick up your binoculars and read the signs clearly so that you’re ready for the next appropriate exit.

Deborah Walker, CCMC
Deb@CareerShoppingBag.com
Nation’s top Resume Writers & Career Coaches

Online Resume Distribution

New SF 330 to Replace SF 254/255 A/E Qualification Forms

GCI has confirmed the final requirements for the SF 330—the consolidated form that will replace the SF 254 and 255 Architect/Engineers Qualification forms.

GCI has confirmed the final requirements for the SF 330—the consolidated form that will replace the SF 254 and 255 Architect/Engineers Qualification forms. What’s in and what’s out?

Current Section 9—Out
30 Example Projects—Out
Project Pictures—Out
Fee Disclosure—Out
Page Numbers—Out
Required Organization Charts—In
Section G—In
Expanded Project Descriptions—In

New profile codes will have exactly the same descriptions as the old codes to facilitate conversion from one code to another. Additional functions will be added, but contractors will have the option of using the previously assigned function if they choose.

When the new form comes out in May 2003, contractors will be required to comply within 6 months, says Don Evick, US Army Corps of Engineers. A drop-dead date will be developed.
Two Inducted into Professional Engineers Hall of Fame

Doug Brekke, PE, President Elect

John H. Morrison, P.E. of Helena and Ben F. Hurlbut, P.E. of Billings are the inaugural inductees into the Montana Professional Engineers Hall of Fame. Plaques honoring them will be hosted at the Montana State University College of Engineering in Bozeman.

The Montana Professional Engineers Hall of Fame is sponsored by the Montana Society of Engineers to honor Montana engineers who made significant contributions to the development of Montana and the engineering profession.

John H. Morrison graduated from Montana State College (now MSU in Bozeman) in 1927 with a bachelor’s degree in civil engineering. He was the chief bridge designer for the Montana Department of Transportation (1939-1945) and founded Morrison-Maierle, Inc. in 1945. Morrison worked on many of Montana’s early water and wastewater treatment systems, including projects in Hamilton, Cut Bank, Columbia Falls, Billings, Bozeman and Kalispell. Other projects included the design of the Koocanusa Bridge near Libby (1972), seismic renovation of the Montana State Capitol (1963), and the Wolf Creek Canyon section of Interstate Highway 15 north of Helena (1966).

Morrison worked for legislation that created the Montana Board of Professional Engineers and Land Surveyors in 1947 and served as the board’s first chairman. He holds Montana Professional Engineer license No. 1ES. He has further promoted engineering professionalism through active membership in several professional societies. Morrison recently celebrated his 100th birthday with family and friends in Helena. For his lifetime of commitment to the highest professional standards, the Montana Society of Engineers honors him as an inaugural member of the Montana Professional Engineers Hall of Fame.

Ben F. Hurlbut graduated from MSC in 1949 with a bachelor’s degree in civil engineering. He founded HKM, Inc. in 1970. Hurlbut was the structural engineer for private and public buildings throughout Montana, including Billings West High School, Bozeman Senior High School, C.M. Russell High School in Great Falls and schools in Livingston, Glendive, Miles City, Broadus, Red Lodge, Polson, and Missoula. He was the structural engineer for Brick Breeden Fieldhouse at MSU-Bozeman. At the time of its construction in 1956, the Fieldhouse was the largest clear-span, timber-frame dome in the world.

Hurlbut was a national director and co-founder of the Montana chapter of the American Council of Engineering Companies. He served on the Technical Review Board for the American Institute of Timber Construction and has been an active member of several other professional societies. For his lifetime of commitment to the highest professional standards, the Montana Society of Engineers honors him as an inaugural member of the Montana Professional Engineers Hall of Fame.

See the insert in this newsletter to make your nomination for 2003.
Joint Engineers Conference
November 13-14 in Helena

Doug Brekke, PE, JEC Chairman
Continuing Education Credits will be offered for participants of the 2003 Joint Engineers Conference to be held at the Red Lion Colonial Hotel in Helena on November 13 and 14. MSE helps sponsor this annual gathering for engineers from all disciplines.

The Conference offers general sessions of interest to all engineers and technical sessions specific to civil, structural, transportation, mechanical, and electrical engineers. Between sessions, attendees can visit with area vendors and learn about new engineering products and services.

Stop by the MSE Booth at the JEC for your chance to win a digital camera. Attend the MSE board meeting at 9:00 p.m. on Thursday November 13 and increase your chances to win the digital camera.

Expect to receive your registration for the JEC direct in the mail SOON! Copies will be available at the MSE Office if you miss yours!

See you in Helena!

03-04 MSE Board

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