

In this issue:

- *Event Announcements – MESA Day, Linus Pauling 2008-09*
- *Other States -- Texas*
- *Classroom Resources – Salvadori on the Built Environment, Web*
- *Articles – Sherwood High School*
- *PLTW – IED: Analysis of Cognitive Levels of Learning & Math & Science Content*

Events – Announcements

- **Mesa Day at PSU**, Friday May 9 – trebuchets, balsawood bridges, math scavenger hunt and more – volunteers still needed; can you devote a minimum of two hours to some great kids?
http://mesa.pdx.edu/mesa_day.htm
- Preview of the **2008 – 2009 Linus Pauling Memorial Lectures** brought to you by the Institute for Science, Engineering, and Public Policy – the tentative schedule is at
<http://www.isepp.org/pdf%20files/PDX0809PostCard.pdf>.

Other States

- **Texas pre-engineering program receives state grant.**
<http://links.mkt753.com/ctt?kn=1&m=1090129&r=MTQ3NzcxMjQwMwS2&b=0&j=OTAwODg5MzgS1&mt=2&rj=OTAwODg5MzgS1>
Texas's San Antonio Business Journal (4/23) reported that TexPREP, a "University of Texas at San Antonio (UTSA) program aimed at drawing in more young people to study math and science throughout the state, has received a \$164,500 grant from the Texas Guaranteed Student Loan Corp." According to the Business Journal, the funding will be "use[d] to support the...program at additional campuses throughout the state this summer." TexPREP "is based on the Pre-freshman Engineering Program (PREP) at" UTSA. A university spokesman said that "PREP began at the university in 1979," and in "1986 a statewide version of the UTSA PREP program, called the TexPREP program, was formed." Through both programs, "middle and high school students take courses in math, physics, computer science, logic, technical writing and engineering." The Business Journal pointed out that since TexPREP's inception, "25,818 grade school students have gone through the statewide program," and "[o]f that number, 81 percent have been members of minority groups and 53 percent were young women."
- **Texas Tech receives \$2.7 million STEM education grant.**
<http://links.mkt753.com/ctt?kn=22&m=1090129&r=MTQ3NzcxMjQwMwS2&b=0&j=OTAwODg5MzgS1&mt=2&rj=OTAwODg5MzgS1>
Texas's Avalanche-Journal (4/24) reports that Texas Tech University "will receive \$2.7 million from the National Science Foundation to help local school-children understand the connection between math and science." Texas Tech will use the money to offer the "Building Bridges: Integrating Math, Science, and Engineering Education on the South Plains" program. According to the Avalanche-Journal, the "program will give \$30,000

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A service of the Oregon Pre-Engineering & Applied Sciences Initiative (OPAS)

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archives: <http://opas.ous.edu//OPASsphere/index.html>

stipends to eight to 10 Tech graduate students per year in science, technology, engineering and mathematics (STEM) disciplines." In return, students must "participate in two summer institutes and work 15 hours per week with area high school math and science teachers."

Classroom Resources

- **Education and the Built Environment, "See It. Build It. Know It." --**

<http://www.salvadori.org/>

Founded in 1976 by world-renowned structural engineer and Columbia prof Mario Salvadori who "believed that the built environment held all the knowledge that a person needed to be an intelligent and active member of the community. What teachers need to make this knowledge available to their students are tools with which they can "unpack" the knowledge embedded in the built environment.

The Salvadori Center gives these tools to teachers and students through a pedagogy grounded in what it calls "project-based, hands-on/minds-on activities" that employ the principles of architecture, engineering, and the design process. Through this method, teachers and their students can unlock the math, science, art, and humanities embodied in the structures and systems that surround them."

- Per Ken here in our office, very good tutorials on web-based tools -- HTML, RSS, etc.

<http://www.w3schools.com/>

Equity

- **A Closer Look at Minorities in Engineering, Inside Higher Education**

<http://www.insidehighered.com/news/2008/05/02/nacme>

An important point: Only 4% or "28,000 out of about 690,000 minority students who graduated from high school that year (2002) had taken enough required math and science courses to qualify them for a college program in engineering" -- brings home the importance of giving students reasons to take higher level math/science while in HS (and working to make sure that all our Oregon high schools offer physics, calculus). *Thanks to Ellen Momsen for the article and the point.*

Articles

- **Oregon course combines engineering, technical education principles**

http://www.sherwoodgazette.com/news/print_story.php?story_id=120906157523189600

Oregon's Sherwood Gazette (4/24, Moyer) reported that the "emphasis on engineering preparation classes" in John Niebergall's "advanced shop classes at" Sherwood High School (SHS) "is proving unique." At SHS, technology education teachers are "promot[ing] the use of cutting edge technology to prepare students for the real world." But in order "to compete with countries like India," Chris Brooks, president of the TechStart Education Foundation, said that "more schools need to follow" the lead of SHS. Brooks touted Niebergall's program, which combines traditional shop classes like woodworking with high tech software and 3D printers." He called the class "a shining example of how you can get kids interested in the engineering field." However, while the course is popular with boys, "young women are nearly absent from

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the class." Brooks recognized that "the lack of females in the engineering world is a problem," and said that it "remains a difficult challenge that schools and industry will continue to address."

Thanks to ITEA Ideagarden & Brad Naas

PLTW

- **Introduction to Engineering Design: Analysis of Cognitive Levels of Learning and Mathematics and Science Content.** March 2008 ([42 page pdf with color charts](#))
Intro to Engineering Design, IED, is the first course in the PLTW High School curriculum.

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