

In the OPASsphere – September 30, 2008

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

To subscribe or get more info, please contact Jo Oshiro - jo_oshiro@ous.edu or 503.821.1139

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Events – Announcements

- (PLTW) Counselor Training, Administrator/New Teacher Information and Veteran PLTW Teacher Professional Development – Friday, October 10 (All-State In-service Day) at Clackamas Community College
 - Flier: http://opas.ous.edu//PLTW_Advocacy/Counselor_Conference_2008_flier.pdf
- **Oregon College Access Network (ORCAN)** is bringing together statewide leaders, administrators and practitioners for dialogue to develop and strengthen the coalition of college access programs in the state, October 27 at Lane Community College Center for Meeting and Learning. More: <http://oregoncan.org/>
- **Save the Date: Portland State University's 2009 Engineering Discovery Showcase**
Friday, January 23, 2009 – Engineering Building, Intel / Gordon & Betty Moore Atrium – 11:00 a.m. - 2:00 p.m. The Engineering Discovery Showcase is a fun, hands-on, interactive event for students interested in engineering. Meet PSU's engineering and computer science faculty and students; learn about the Maseeh College of Engineering and Computer Science degree programs and innovative research opportunities through interactive lab tours. This is a great opportunity to discover more about student life as well as hands-on engineering design and research. To register please visit: <http://www.pdx.edu/cecs/outreach.html>

Weblinks

- **Not Your Parents 4-H:** <http://www.4-htechwizards.org/> -- site replication of this program was funded in part by ETIC.

Funding

- Have you developed your own curriculum to teach engineering to K-12 students?
Have you found a way that makes your pre-college students “get” science concepts by learning through real-world engineering?
The Engineering Pathway www.engineeringpathway.com and TeachEngineering www.teachengineering.org are pleased to announce the inaugural year of the Premier Curriculum Award for K-12 Engineering. Submit your original and creative classroom-tested engineering lessons and activities, and you might win \$1,000 plus a trophy and conference travel.

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Submission deadline: October 15, 2008.

See <http://www.engineeringpathway.com/ep/k12/award> for all the details.

Questions? Contact mcyr@wpi.edu. Thanks to Larry Flick and Tom Thompson.

- **Feds donate money for wave energy center in Oregon**, The Oregonian, 9.19.2008, by Gail Kinsey Hill -- "Oregon is now the unquestioned national leader in marine renewable energy," said Robert Paasch, an associate professor of mechanical engineering at OSU and interim program director of the new center. --
<http://www.oregonlive.com/environment/oregonian/index.ssf?/base/news/12217947095800.xml&coll=7>

Equity

- The College Board convened a panel of experts (not financial aid professionals) to rethink the federal financial aid system, as reported by EdWeek, Inside Higher Ed and others.
 - <http://www.edweek.org/ew/articles/2008/09/18/05collegeboard.h28.html?tmp=2124313834> -- Article has links to the report itself.
 - Seven principles underscored the committee's work in re-envisioning the financial aid system as reported in <http://www.insidehighered.com/news/2008/09/19/rethink>.
 - The system should have as its main purpose helping those who are unlikely to meet their educational goals without financial help.
 - Federal grant aid, in combination with a reasonable amount of work and loans, should be adequate to make completion of a four-year degree financially possible for all qualified students.
 - Federal aid should be provided as clearly, transparently, and simply as possible. Communication with families and students about college opportunity should be early, proactive, encouraging, sustained and accurate.
 - Federal aid eligibility should be predictable. Individuals and families in given economic circumstances should be able to anticipate confidently the resources that will be available to meet their needs.
 - First and foremost, help students. Concerns about the impact of policy changes on particular institutions such as colleges, banks, or government agencies should take second place.
 - Help students not only to begin postsecondary education but also to succeed after they arrive.
 - Taxpayer funds should be used as efficiently as possible in advancing the principles set out above.
- Barb Ericson from Georgia Tech and the AP-CompSci listserv on recruiting girls and minorities to CS classes, the Georgia Tech experience, with a recommendation for **Stuck in the Shallow End**, published today. Having good computers is not enough; classes must be more than keyboarding and applications or students get channeled away from careers in computers and technology.

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- From the listserv:
http://opas.ous.edu/Committees/Resources/NonOPAS_Working_Papers/GATech_APCS_attracting_girls_minorities_Sep08.pdf
- **Stuck in the Shallow End, Education, Race, and Computing**, by Jane Margolis, MIT Press, on Amazon. -- <http://www.amazon.com/Stuck-Shallow-End-Education-Computing/dp/0262135043>

Articles

- The **Marshall 4-H Tech Wizards** made the front page of the Bend Bulletin:
<http://bendbulletin.com/> These youth worked with the neighborhood association to complete a sidewalk walkability inventory; the project has created lots of interest. The youth received a short airtime segment on KTVZ (our tv station); a small blurb in the newspaper a week ago; and they were given a certificate of appreciation by the Bend City Council. While at the Council meeting, they were invited to map the entire city for walkability, not just that neighborhood! This is strong recognition for youth from an alternative school!
Thanks to Roger Rennekamp and Sarah Cofer; the Marshall 4-H Tech Wizards are a replication site for the Tech Wizards program, funded in part by ETIC.
- **Tech Giants Invest in Global Ed Reform**, Meris Stansbury, eSchoolNews, Sep 24, 2008,
<http://www.eschoolnews.com/news/top-news/related-top-news/index.cfm?i=55321&page=1>

Research

- From 4-H: **Revisiting How the US Engages Young Minds In Science, Engineering, and Technology**, A response to the recommendations contained in The National Academies' "Rising Above the Gathering Storm" report, 2008 -- <http://www.4-h.org/pdf/4-H%20Science%20Engineering%20and%20Technology%20Position%20Paper.pdf> – Out-of-School-Time (OST) programs work for both hard skills and soft skills development of students.
- **CEOs: Time to address 'education gap'**, eSchoolNews, September 25, 2008
<http://www.eschoolnews.com/news/top-news/index.cfm?i=55347&page=1> *Thanks to Brad Naas & ITEA*
- **Tracking the Reasons Many Girls Avoid Science and Math**, Science Daily, September 8, 2008 – self-efficacy (i.e., "I am confident I can do this well") influences willingness to do more than the minimum necessary more than initial interest; influences on self-efficacy vary with age and gender; we are saying one thing but cultural cues deliver a different message.
<http://www.sciencedaily.com/releases/2008/09/080905153807.htm> *Thanks to STEM Equity Pipeline Project of NAPE*

Classroom Resources

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- More on FREE Stanford Classes:
http://www.businesswire.com/portal/site/google/?ndmViewId=news_view&newsId=20080917005182&newsLang=en Thanks to Brett McFarlane
- **Bayer's "Making Science Make Sense" Periodic Table of the Elements -**
http://www.bayerus.com/msms/web_docs/PeriodicChart.pdf - includes some uses for each element from rocket fuel to spark plugs to photoelectric cells and leak detectors ... visually appealing, too! Prints as 3 pages from a 6 page pdf. Thanks to Brad Naas & ITEA

Field Reports

- **From Mark Gullickson, LEGO Robotics Coach and teacher at Central Elementary in Albany:** [September 22nd] I received official news that my students and I have been selected by the Annenberg Media Foundation - Journey North International Science Program to represent the United States as part of an international science and technology program. We were selected from amongst 300 classrooms nation-wide. My students and I will be working with an elementary/middle school science classroom in Ismayilli, Azerbaijan for most of this school year. The teacher I will be partnering with, Ulviyye Tahirova, was recently selected as the Azerbaijan Teacher of the Year. My classroom was selected for this program based in part upon the success my previous students [middle schoolers in Lebanon] had blending technology and environmental science (Journey North gardening projects at Seven Oak) together. Needless to say, we have already received our first request for a media interview!

This is going to be such a great opportunity for my kids to experience first-hand the geopolitical issues elementary students face that live in the "hot-seat" of the Middle East; Azerbaijan is bordered by Iran, Russia, Georgia, Armenia, and the Caspian Sea. I am looking at this opportunity as a means to foster cultural awareness between our two countries - sort of a "School Gardens for Peace and Understanding." Here is a link to the classroom our class will be working with: <http://www.learner.org/jnorth/mclass/spring2006/Intro10.html>

- The Oregon Robotics Tournament and Outreach Program (ORTOP) reports 24 teams currently registered for FIRST Tech Challenge (ages 13-18) – the larger robots using a LEGO NXT brain and Tetrix mechanicals. For more information, see <http://www.ortop.org/ftc/>.

FIRST LEGO League (ages 9-14) registrations are expected to close nationally today, September 30, 2008. ORTOP anticipates 384 teams participating this year. For more, see <http://www.ortop.org/fll/>.

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