

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

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Events – Announcements

- **OIT and Techstart Education Foundation** are hosting **Gaming as a Gateway to Computer Science** (for teachers), at **OIT Klamath Falls, July 28 to August 1** - This session is held in parallel with OIT's **Amazing Gaming Camp** for students. Teachers are encouraged to bring a student along for this session! The great thing is that the teachers can bring students also who will be at their own gaming camp applying the software applications that the teachers are also learning, what a great way for the teachers to see how the students are doing as they are learning too. Teachers can get all the info they need and even REGISTER on-line at <http://www.techstart.org/superquest.html>
- Also this week at OIT -- **PROJECT LEAD THE WAY**: Sixty-three middle school and high school teachers from across the state of Oregon will be on the OIT campus July 6 through 18, 2008, for engineering education training through the national Project Lead The Way initiative. OIT is proud to be Oregon's lead university for PLTW. Educators will spend time on the OIT campus honing their teaching skills in engineering and related concepts for the upcoming school year. To learn more -- <http://www.oit.edu/programs/met/pltw>.

Events – Wrap-Up

- Nolan Hergert, Class of 2008 answers my query on the HilHi InvenTeam trip: *"Yeah, it was awesome! Our trip was a national convention for Hilhi's InvenTeam program, for which we made an autonomous industrial cleaning robot, which we had a few thousand dollars and a year to develop. We took our prototype unit back to MIT with us and showed it off for other InvenTeams, MIT students and professors, and other people in Boston. Along with that, we went to a few seminars and presentations on invention and venture capital, as well as seeing other teams' inventions and taking some tours of MIT. Oh, and on the last day, we took part in a 4-hour "Design Challenge" at the Boston Museum of Science creating a wind-powered device that could raise a garbage can 30 feet into the air. Sounds weird, but it was a blast! (And some of the Design Squad folks were there from PBS, including the host, Nate Ball)".* The InvenTeam Coach is Don Domes, the mentor is Ben Manny, and the InvenTeam program is the brainchild of the Lemelson Foundation. Nolan says they'll have a website up shortly.
- Ken Cone's informal Trip Report on **CAD teacher's conference at Mark Morris High School, Longview WA**. The event is hosted by Mark Morris High School and Rhinoceros 3D CAD software, and comes highly recommended by Don Domes, who would like to see more Oregon teachers able to participate in such an event -- http://opas.ous.edu/Committees/Resources/Staff_papers/Trip_Report_Longview_070808.pdf

The OPAS Vision is that all Oregonians have the opportunity to choose and successfully pursue engineering or applied science as their field of study and career, thereby helping Oregon's industries contribute to state economic needs, and innovate and prosper in the global economy.

Articles

- **Career Programs Stress College, Too, and Give Students a Leg Up, Study Says**, New York Times, 6.26.2008, by Erik Eckholm --
<http://www.nytimes.com/2008/06/26/education/26careers.html?ref=education>

Forget the old-fashioned “vocational ed” classes that sent students on a decidedly noncollege track. Over the last quarter-century, a new kind of high school program known as a career academy has proliferated, especially in low-income districts, that combines job placement, college preparation and classes beyond the vocational trades, from accounting to health care. Now, a long-term and rigorous evaluation of nine career academies across the country, to be released in Washington on Friday, has found that eight years after graduation, participants had significantly higher employment and earnings than similar students in a control group.

Poverty experts called the findings encouraging because few interventions with low-income teenagers, especially blacks and Hispanics, have shown significant and lasting effects, and they come at a time when young minority men, especially, are losing ground disastrously in the job market. Career academies offer students experience in the workplace, and help them get paying jobs while they pursue standard academic coursework. When the study, by the Manpower Demonstration Research Corporation, began 15 years ago, there were fewer than 500 career academies in the United States. Today there are more than 2,500, and the new findings are likely to spur more growth, several experts said.

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- Link directly to the report: <http://www.mdrc.org/publications/482/overview.html>
- *Attention goes a long way at a school, small by design*, Jennifer Medina, New York Times, June 30, 2008 --
<http://www.nytimes.com/2008/06/30/education/30school.html?ex=1215576000&en=5f6b7bfc2b41dea&ei=5070&emc=eta1>

Lots of food for thought here – what is fair to expect from educators? Unexpected barriers to college enrollment; are small schools succeeding because select for the best students?

The Susan Knight in the article is sister to OPAS activist Dick Knight, whom we thank for this article.

Research

- The STEM Equity Pipeline Project has a wealth of resources on its website – I found some nice material on assessments for outreach and recruiting programs here:
<http://www.stemequitypipeline.org/ProfessionalDevelopment/ArchivedWebinars.aspx>
and I’m told there is a wealth of resources on the site. *Thanks to Tom Thompson & Tim Brower.*
- *Changing the Conversation: Messages for Improving Public Understanding of Engineering*. Committee on Public Understanding of Engineering Messages, National Academy of Engineering. 2008. -- http://books.nap.edu/catalog.php?record_id=12187
 - Don’t worry about the “nerd” image; it’s a non-issue.

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- The medical professions don't emphasize the pain of passing organic chemistry; why should engineers emphasize on the difficulties of math classes?
- "Because Dreams Need Doing"
- "Engineers Make A World Of Difference"
- Engineering Positioning Statement: "No profession unleashes the spirit of innovation like engineering. From research to real-world applications, engineers constantly discover how to improve our lives by creating bold new solutions that connect science to life in unexpected, forward-thinking ways. Few professions turn so many ideas into so many realities. Few have such a direct and positive effect on people's everyday lives. We are counting on engineers and their imaginations to help us meet the needs of the 21st century."
- *In the OPASsphere* previously cited the follow-on research report on the tagline "Because Dreams Need Doing" --
<http://opas.ous.edu/Committees/Resources/Publications/NAEEEngineeringPositioning.pdf>

Equity or Fun Stuff?

- Purdue University's College of Technology has a new twist to recruiting girls – cheerleading camp. Gimmicky? Maybe, but robots dance and the choreography happens with the help of motion capture technology.
http://www.tech.purdue.edu/Student_Life/diversity/cheering_in_the_classroom.cfm -- thanks to Celeste Baine.

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