

## ***In the OPASsphere – May 6, 2009***

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

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

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### ***Employers:***

- **Hire a student or educator intern!** For the summer, for just a month, or for a whole year, provide a high school/ college student or an educator with a priceless learning experience! For 25 years now, the Business Education Compact (BEC) has been recruiting interns to match the specific needs of companies and organizations. BEC makes it easy by acting as employer of record; all you have to do is define the project and work to be done! Past employers have found the interns to be an incredibly cost effective means to get real work done. Contact the BEC for more information at [hr@becpdx.org](mailto:hr@becpdx.org) or call 503-646-0242 x23. Visit [www.becpdx.org](http://www.becpdx.org) for more information

### ***Events – Announcements***

- University of Virginia **Tapestry 2009** Workshop for Computer Science Educators in Middle and High School -- <http://www.cs.virginia.edu/tapestry/> -- this NSF-funded workshop is accepting applications from those interesting in attracting more students; changing perceptions of counselors, students and parents; and engaging more students in CS. While I believe this is mostly targeted to the East Coast, national experts will be participating, and Jo will try to keep tabs on results. If anyone does go, please report back!

### ***Events – Wrap-Up***

- **BEC's Final [Summary] Report: National Engineers Month 2009**, Presented by the Business Education Compact, April 1, 2009 - [http://opas.ous.edu/Committees/Resources/Publications/BEC\\_2009\\_NEM\\_summary\\_report.pdf](http://opas.ous.edu/Committees/Resources/Publications/BEC_2009_NEM_summary_report.pdf)  
Highlights: Governor's proclamation, 26,800 students in 975 classrooms of 450 educators served by 400 volunteers; ever-increasing geographic range; great selection of quotes by volunteers and educators. Congratulations on another great year!
- **A Watershed Moment: First National Conference on Science and Technology in Out-of-School-Time**, September 2008 -- <http://www.projectexploration.org/watershed/> -- including an essay by Eda Davis-Lowe of OSU's SMILE Program.

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- **Oregon Youth Robotics Teams Showcase Talent at FIRST World Championship.** *Six high and middle school teams show off their engineering skills and bring home accolades from Georgia*  
[http://www.ous.edu/news\\_and\\_information/news/050409.php](http://www.ous.edu/news_and_information/news/050409.php)

### ***Weblinks***

- **Book Review by Celeste Baine: Carnegie Mellon on Educating Engineers --**  
[http://www.engineeredu.com/celestes\\_blog/2009/04/eduengrs.html](http://www.engineeredu.com/celestes_blog/2009/04/eduengrs.html)
- Knowledge Works Foundation Presents: 2020 Forecast, **Creating the Future of Learning --**  
<http://www.futureofed.org/> -- which begins addressing some of the design issues mentioned in Ronald Wolk's opinion piece under "Policy" below.

### ***Funding***

- The Northwest **Girls' Collaborative Project has \$1000 minigrants** for collaborative projects benefiting girls' STEM education, and it's ok for boys to benefit, too. Apply on-line, deadline May 22; make sure all collaborators enrolled in the program directory before applying; allow 48 hours lead time --  
<http://www.pugetsoundcenter.org/ngcp/mini-grant/index.cfm>

### ***Research***

- **Collaboration as a Means to Building Capacity: Results and Future Directions of the National Girls Collaborative Project**, Marra, Peterson, Britsch -- <http://www.ngcproject.org/about/index.cfm>
- **Study Probes Cooperative Learning and Race**, Debra Viadero, Education Week --  
<http://www.edweek.org/ew/articles/2009/05/05/31group.h28.html?tkn=XSOFFmeVdeOEhkR2%2FjQE3lNailuoPUeP31f0> – Upshot: emphasize community and intra-group ties, black kids excel; reward individuals, white kids excel. Yes, it was a short study.

### ***Policy***

- Opinion: **Why We're Still at Risk: The Legacy of Five Faulty Assumptions**, Ronald A. Wolk, Education Week – in an interesting application of engineering failure analysis, this long-time educator faults the design of the system and checks systemic improvement effort assumptions --  
[http://www.edweek.org/ew/articles/2009/04/22/29wolk\\_ep.h28.html?tkn=MY\[FZNG6Vojb3JhdxssBng%2BYp8q9lJUgnTak](http://www.edweek.org/ew/articles/2009/04/22/29wolk_ep.h28.html?tkn=MY[FZNG6Vojb3JhdxssBng%2BYp8q9lJUgnTak)
- President Obama's recent speech at the National Academy of Sciences, where he announced a National Science Foundation/Department of Energy collaboration to **"spark a sense of wonder and excitement" in the nation's young people to pursue careers in science and engineering** sparked this blog commentary -- <http://www.blog.thesietch.org/2009/04/28/obama-bringing-science-back/>. Highlights include:
  - Individual fellowships for grad students
  - Integrative graduate training programs
  - Undergraduate research opportunities
  - Technician education at two- and four- year colleges

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- **Focused K-12 Science Education and Innovative Technology Experiences for students/educators**
- Public awareness around how science and technology will address the nation's energy challenge and transform our future

*Thanks to Tak Kendrick*

### ***Who's Who***

- **Get Magic mentoring program** for middle school girls in CS and IT -- <http://getmagic.org/index.html> -- this should be an interesting pilot to watch, and has already garnered some interesting press coverage.

### ***Field Reports***

- **Workshop: What Does Research Tell us About Encouraging Girls in Math and Science?** -- [http://opas.ous.edu/Committees/Resources/Staff\\_papers/Trip\\_Report\\_NGCP\\_EncouragingGirls\\_2009.pdf](http://opas.ous.edu/Committees/Resources/Staff_papers/Trip_Report_NGCP_EncouragingGirls_2009.pdf) -- Jo sat on a panel with other program directors, talking about what works in the informal education sector to encourage girls in math and science, and brought back this report on the day. The workshop was a collaboration by the Northwest Regional Education Laboratory (NWREL), the National Girls Collaborative Project (NGCP), IES (Institute for Educational Services, US Department of Education) and Lewis and Clark College. Jo's key perceptions:
  - STEM Education seems to be gaining ground, maybe even approaching critical mass
  - What's good for girls in general benefits a wider range of students than "born engineers" or "born mathematicians" and that includes lots of boys as well.
  - Girls as a group may need more encouragement to create and keep their confidence in their own competence.
  - Most "stereotypical" educational deficits can be addressed with training ... which probably means it is nurture, not nature.

### ***Data***

- **NCWIT *By the Numbers* Fact Sheet** -- <http://www.ncwit.org/pdf/BytheNumbers09.pdf> -- The National Center for Women in Technology (NCWIT) has recently released a new 2009 version of their *By the Numbers* fact sheet. The fact sheet is a colorful one-page document with startling statistics about women in information technology careers and majors. NCWIT is a coalition of more than 170 prominent corporations, academic institutions, government agencies, and non-profits working to increase women's participation in IT. *Thanks to Ruthe Farmer and The National Girls Collaborative Project.*

### ***PLTW***

- **Project Lead The Way Leads Students into Real Life**, Sandy Post, Brian Heinze, April 14, 2009 -- [http://www.sandypost.com/opinion/story.php?story\\_id=123975870897314200](http://www.sandypost.com/opinion/story.php?story_id=123975870897314200)

### ***Assessment***

- **Assessment Tools in Informal Science** -- <http://atis.pearweb.org/> -- This searchable Web site provides assessment tools for informal science learning. The goal is to provide practitioners, evaluators, researchers, and policy makers with the information to choose appropriate tools for assessing program

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quality and outcomes for children and youth. Supported by the Noyce Foundation, PEAR (Program in Education, Afterschool and Resiliency) located at Mclean Hospital and Harvard Medical School, reviewed existing tools and published the findings in a report. This Web site is based on the findings of that report and will be continuously updated in collaboration with the Youth Development Researchers at 4-H. *Thanks to National Girls Collaborative Project*

### ***Classroom Resources***

- **Engineering Curriculum Contest Deadline Extended to May 14!** Engineering Education Rocks! is the theme for the EESC's 1st curriculum competition. K-12 engineering educators now have the chance to highlight their creativity and technical know-how. Categories range from elementary to high school. Submit your best engineering activities and win prizes! ***Winners in each category will receive a book of all winning curriculum and a certificate. In addition, each category will include a grand prize, second place and third place prizes!***
  - **Grand Prize:** \$500 EESC Shopping Spree plus a copy of Time Engineers -- [http://www.software-kids.com/html/time\\_engineers.html](http://www.software-kids.com/html/time_engineers.html)
  - **Second Place:** A Set of Classroom Posters plus a copy of Time Engineers
  - **Third Place:** Set of DVDs -- <http://www.engineeredu.com/store/dvds.html> -- plus a copy of Time Engineers
  - **Deadline is 4:00 pm PST May 14, 2009** -- <http://www.engineeredu.com/contestcurr.html>

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