



**All-OPAS Workshop 2009:
ETIC Internal OUS Grant Reporting
February 4, 2009**

PSU – MESA
***Creating the Pre-Engineering Pipeline for
Diverse Students***
\$110,000

Connect students and families to near-peer mentors
and information on careers & next steps

OPAS Vision for the Year 2020 - 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 innovate and prosper in the global economy.



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- Goal: overcome cultural & economic barriers through mentoring and connecting to families
- Best Practices Used/Shown
 - Mentoring Relationships (Cooper, C.R.,2002).
 - Create college-going culture Ryan, A. & Patrick, H. (2001).
 - Engaging the Family is critical to student success
Henderson, A. (1994), Perna, L.W. & Titus, M.A. (2005)

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Key leanings relevant to OPAS Bright Future Proposal:

- Student involvement in STEM activities is only one part of the equation for diverse and low-income students: Family is Key
- College access remains a significant barrier to student involvement in STEM
- Student interest in STEM centers around being “able to help people” or providing a social good.

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Lemelson-MIT Program: Teens need tech mentors

January 7, 2009 08:27 AM

Email | Comments (2) | Text size

Boston Globe

Motivations for STEM Careers

The 2009 Lemelson-MIT Invention Index is a survey that gauged teens' inspirations for pursuing STEM careers.



*2009 Lemelson-MIT Invention Index includes a nationally representative survey sample size of 500 teens.

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Original service numbers did not change in relation to actual award

Target Audience	Grade Levels	Subject Areas	Projected Number of	Reported Number of	Projected Contact Hours	Reported Contact Hours	Recruitment Strategy
Teachers	Targeted 6-12	College planning, career awareness, cultural / economic barriers to college attainment Culturally Relevant teaching methods	16	19	210	280	MESA teachers Coordinate with School liaisons
Students/ Family Members	Targeted 6-12		300	470 Direct 1,800 Indirect	450	930	Mailings, phone calls, MESA teachers, website, target low-income and diverse schools, partner with other programs and school districts
Special needs/under-represented populations	Targeted 6-12		150	329	NA	651	
Parents/ Families	Targeted 6-12		700	470	NA	450	



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- **Biggest Challenges**
 - Difficulty recruiting engineering student mentors because of heavy engineering academic load
 - Recruiting engineering students of color and women mentors
 - Convincing families that engineering is a possibility for their students

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- Best News
 - Returning ambassadors in year 2 are making a stronger connection with students
 - Synergy with PSU Center for Science Education Master’s program provides teacher ambassadors exposing them to engineering pathways and methods
 - Parent involvement from diverse and low-income parents has increased by 80%

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IT'S ALL ENGINEERING



MESA 2nd Bi-Annual **ENGINEERING YOUR FUTURE**
FAMILY CONFERENCE 2009

Saturday, April 11, 2009 • Portland State University

We Are Now Accepting Workshop Proposals
The Proposal Deadline is February 20, 2009

ABOUT PRESENTERS STUDENTS & PARENTS CONTACT US

VISIT OUR WEBSITES: WWW.MESA.PDX.EDU



This conference is sponsored by a grant from the Engineering and Technology Industry Council



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