NNOVATION
SUMMIT
UARY 11-13, 2013 • JUNEAU, ALASKA • CENTENNIAL HALL

STEM =

nce, Technology, Engineering & Mathema

EM – Talent – Innovation

alent will be the oil of the 21st cent

Deborah Wince-Smith of the Council on Competitiveness

INNOVA

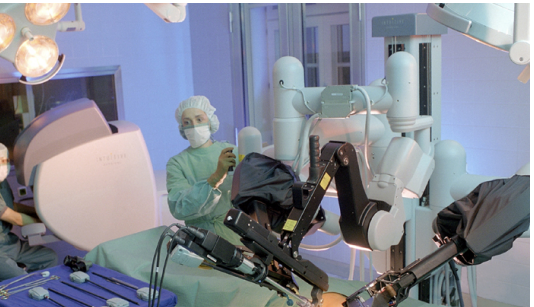
hat is STEM ?

STEM – traditional occupations & professions

STEM *skills*

Critical Thinking - Active Learning - Complex Problem Solving Operations Analysis - Technology Design - Programming, Troubleshooting - Systems Analysis ….

STEM capable workers



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hy STEM?

Global competitiveness - Innovation econo

ob opportunities

ccess to living wage jobs

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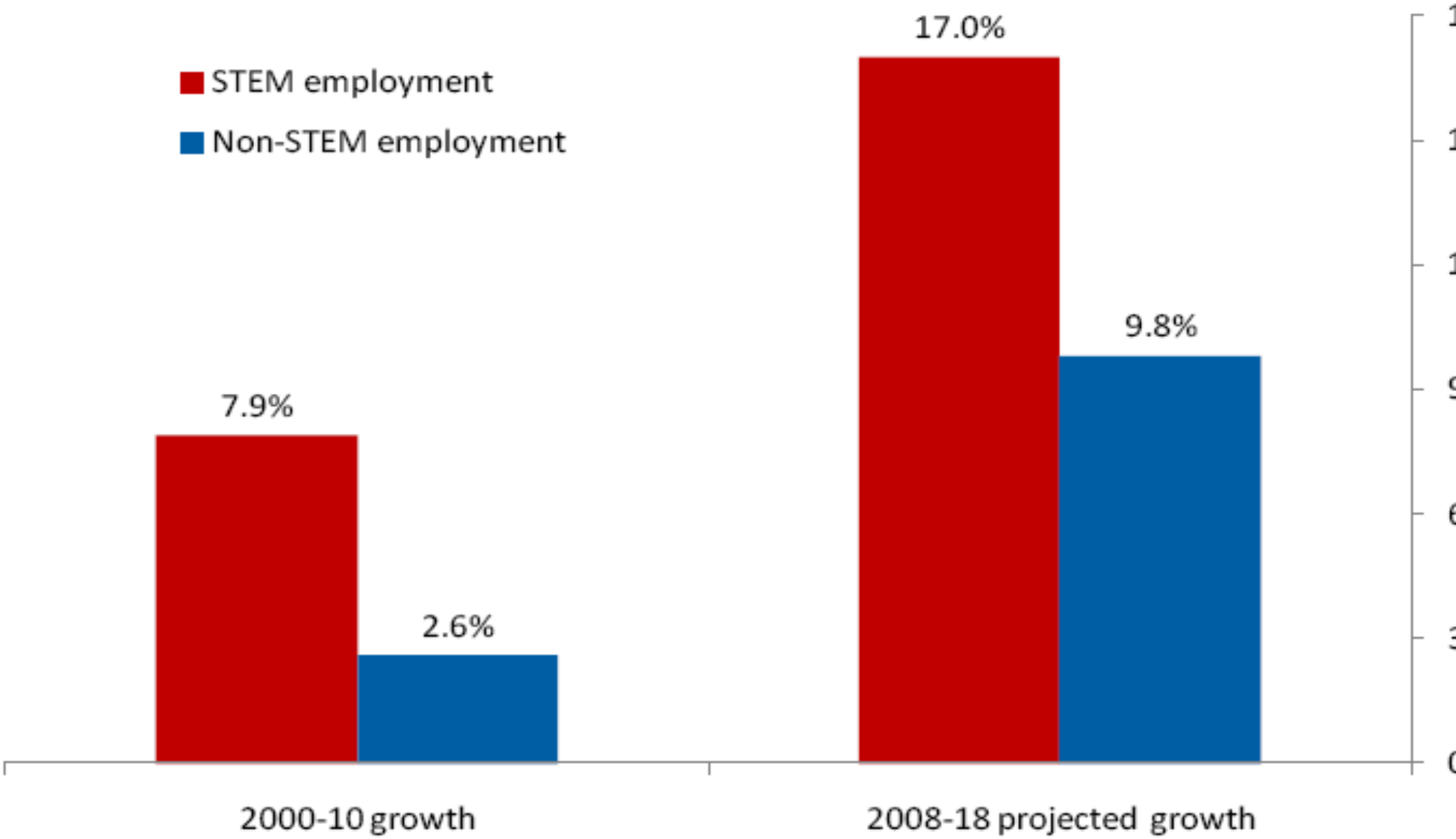
cted STEM & Non-STEM Employme



Source: ESA calculations using Current Population Survey public-use microdata and estimates from the

nging Job Market

STEM:
1.7 jobs for every
unemployed person

Non-STEM:
4.3 unemployed
people for every **1 job**

gh Quality Jobs

STEM degree holders enjoy higher earnings, regardless of whether they work in STEM or non-STEM occupations

STEM workers command higher wages, on average earning 26 percent more than their non - STEM counterparts

	STEM job	Non-STEM job	% differenc
gh school diploma or less	$24.82	$15.55	60%
me college or associate degree	$26.63	$19.02	40%
chelor's degree only	$35.81	$28.27	27%
aduate degree	$40.69	$36.22	12%

hy STEM Education?

"*our education system is not producing enough STEM capable students to keep up with demand both in traditional STEM occupations and other sectors across the economy that demand similar competencies.*"

Georgetown University Center on Education and the Workforce

EM in Alaska

- Screen print:

- http://live.laborstats.alaska.gov/occ/stoccso.cfm

EM Jobs in Alaska

y 2018 > 8,000 job openings in STEM-related jobs (2,700 new STEM jobs and 5,400 more openings as workers retire)

n health care sector, Alaska Dept. of Labor projects a 27.4% increase in health care practitioners and technical occupations by 2020

TEM workers in Alaska earn an average of $73,000 a year, $28,000 more than non-STEM workers

Alaska Department of Labor

e Alaska students prepared ?

ACT Test Data, 2012:

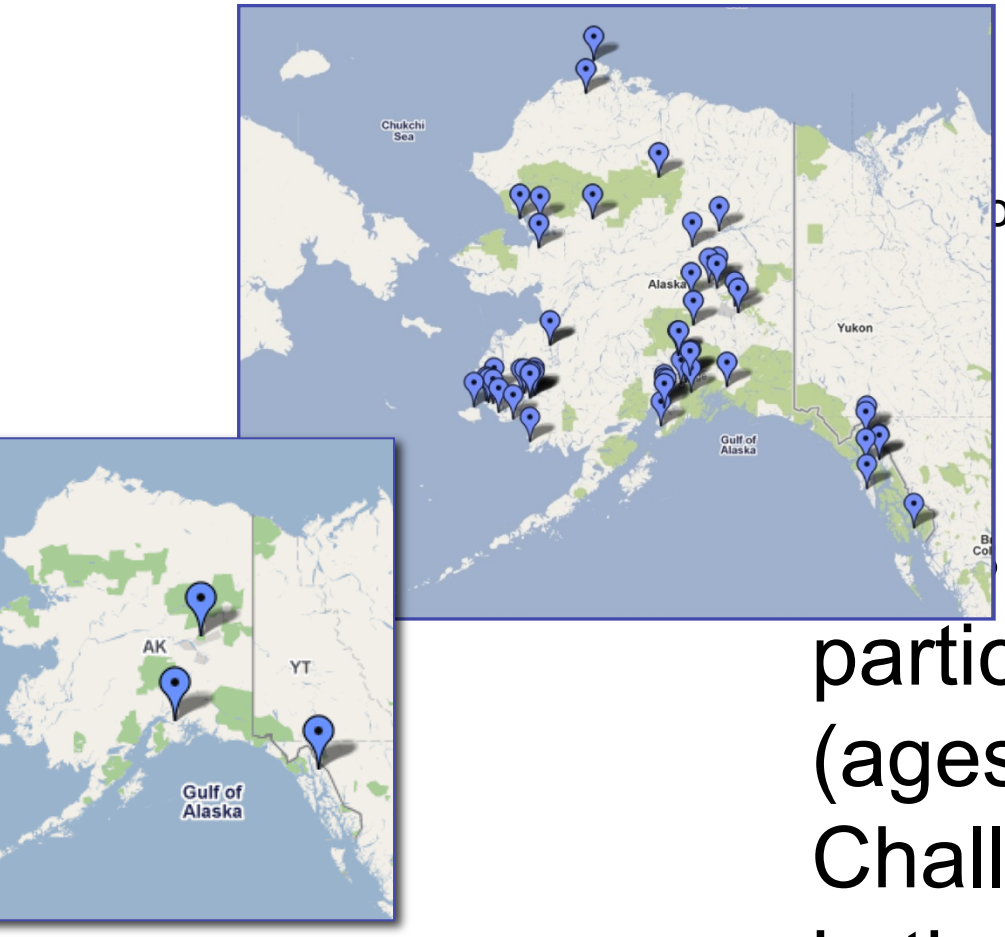
52% of Alaska students did not meet college-readiness benchmarks in mathematics

70% did not meet college-readiness benchmarks in science

SAT AP Test Data, 2012

13 Alaska students took AP test for computer science

ska STEM success

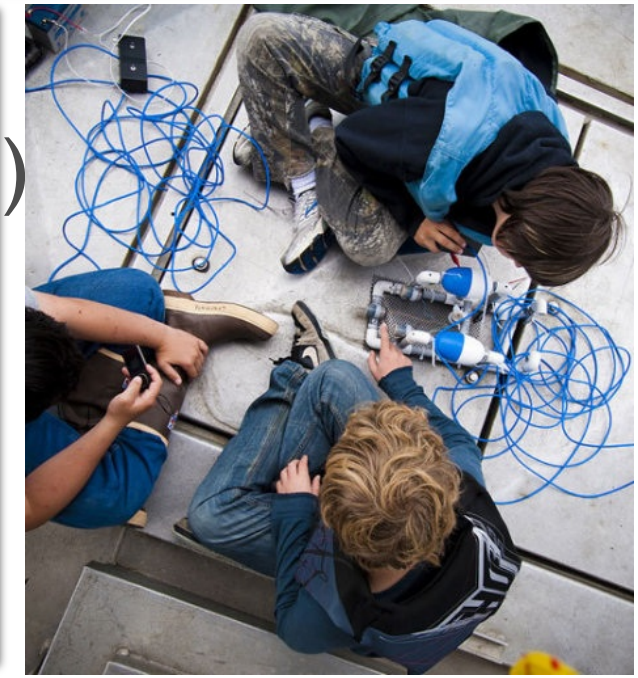


otics

ka has the highest per capita participation in FIRST LEGO Leag (ages 9-14) and FIRST Tech Challenge (introductory high schoo in the nation.

- 45% of FIRST LEGO League participants are girls, compared 20 national average of 30%

at does STEM education look li



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EM - Practical Next Steps

Elevate importance of science, technology, engineering, mathematics & STEM education

Invest strategically – in school & out of school

Increase number of highly skilled K-12 science, technology, engineering and math teachers

System of accountability – longitudinal studies tracking STEM investment & ROI

hy STEM ?

what we take for granted in our everyday lives: the Internet and
lphones, MRI scanners and microwave ovens… cancer treatments
m bacteria we've programmed for benevolence. All these American
ovations and thousands more come to us from science, mathemati
gineering, and technology—no, let's rephrase that: They came to us
ople schooled in those disciplines and from people associated with
o supplied the entrepreneurial energies and capital that the scienti
gineer, and technologist may have lacked.

en and women who will make America's tomorrow are in school a
lege today. They are the human capital at the core of any producti
nomy. And here's a fact about them. There are too few of these p
scientific disciplines. America, the leader, now lags."

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