WELCOME!

SCS Parents/Friends Outreach Roadshow

School of Computer Science
Carnegie Mellon University

http://women.cs.cmu.edu/
Some Interesting Data....
Data: Bachelor’s Average Enrollment in Computer Science (2011 Taulbee Report)

Good news ...

but not the whole story
CS Bachelor’s Recipients by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>CS</th>
<th>CE</th>
<th>I</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>7,622</td>
<td>1,427</td>
<td>1,625</td>
<td>10,674</td>
</tr>
<tr>
<td>Female</td>
<td>1,216</td>
<td>166</td>
<td>275</td>
<td>1,657</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total with Gender Data</th>
<th>CS</th>
<th>CE</th>
<th>I</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>9,008</td>
<td>1,593</td>
<td>1,900</td>
<td>12,501</td>
</tr>
</tbody>
</table>

US Population: female 50.7%  
2010 Quick Facts http://quickfacts.census.gov/qfd/states/00000.html

BUT women make up only 13.8% of students graduating with a bachelor’s degree in CS.
2011 Taulbee Report (2009-2010 activity)
CS Bachelor’s Recipients by Ethnicity


BUT Hispanics make up only 5.3% of students of students graduating with a bachelor’s degree in CS.

And African Americans make up only 3.4% of students of students graduating with a bachelor’s degree in CS.
Some students are missing out on opportunities in computing…

Opportunities in Computer Science:

- Can lead to the best-rated job, and 5 of the top 10 highest paid, highest growth jobs
- Creative and exciting work which can make a difference to our world

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- Jobs in Computing show strong job growth
- Yet the USA has a looming severe shortage in college graduates
Projected Jobs vs Projected Bachelor’s Degrees through 2018

Annual STEM Job Openings vs College Graduates Through 2018

Where the Jobs Are

“In other words, among all occupations in all fields of science and engineering, computer science occupations are projected to account for nearly 60% of all job growth between now and 2018.”

CCC Computing Community Consortium
http://www.cccblogin.org/2010/01/04/where-the-jobs-are
In the mean time......
“Pennsylvania has no certification or endorsement for computer science, Georgia has a voluntary endorsement for computer science, and Texas has a required certification in computer science”

http://csta.acm.org/Communications/sub/DocsPresentationFiles/CertificationFinal.pdf
Number of Schools Offering AP Courses Related to STEM, 1998-2007
“The real problem is that, when it comes to high school CS, we’re just not there. If you choose a high school at random, you are ten times more likely to find one that offers no CS than to find one offering AP CS. .... Most kids just don’t have access.”

(Computing Education Blog, April 21st, 2011)

http://computinged.wordpress.com/tag/apcs/
Choice or Opportunity?

Senior Female in CS at Carnegie Mellon

“..if no one suggested (CS) to me, I probably would have gone to law school or something else.”
Graduates Could Work Here!

**Hardware & Software:**
- Microsoft
- Dell
- Sun
- IBM
- Intel
- Boeing
- Apple

**Web:**
- Google
- Microsoft
- Amazon
- Facebook
- Yahoo
- Vivisimo

**Finance:**
- Goldman Sachs
- Morgan Stanley
- Merrill Lynch

**Consulting:**
- Accenture
- Deloitte & Touche
- PricewaterhouseCoopers

**Arts & Entertainment:**
- Dolby
- Lucas Arts Film Company
- Pixar Animation Studios
- Walt Disney Imaging
Recommendations and Resources 1: Helping your kids prepare for a CS Future

Useful Skills...

- Computer science (if offered but not necessary)
- Mathematics and Logic
- Science
- Joining or starting a math club
- Joining or starting a robotics club
- Teamwork skills
- Communication skills
Recommendations and Resources 2.: Helping your kids prepare for a CS Future

**CMU:**
- TechNights (middle school girls) http://women.cs.cmu.edu/technights/
- K-12 Roadshows (invite us to your school) http://www.women.cs.cmu.edu/What/Outreach/Roadshow/
- Girls of Steel (high school girls) http://news.cs.cmu.edu/article.php?a=2314
- C-MITES (K-9) http://www.cmu.edu/cmites/
- Andrew's Leap (high school) http://www.cs.cmu.edu/~leap/
- Summer Academy for Mathematics + Science 
  http://www.cmu.edu/enrollment/summerprogramsfordiversity/sams.html
- All CMU Outreach: http://gelfand.web.cmu.edu/sections/outreach/k12.php

**OTHER:**
- Women of Spirit Institute Summer Workshops (for high school girls at Carlow University) 
  http://www.carlow.edu/summerworkshops/
- Medical Explorers at Univ. of Pittsburgh (high school)
- Expanding Your Horizons: http://www.expandingyourhorizons.org/
- **Online Free CS Puzzles and Games:** http://csunplugged.org/ and http://www.cs4fn.org/
Recommendations and Resources 3.:
Helping your kids prepare for a CS Future

For Teachers...

• K-12 Roadshows (invite us to your school) http://www.women.cs.cmu.edu/What/Outreach/Roadshow/

• ACTIVATE Workshops for Math/Science teachers (includes a video promotional) http://www.cs.cmu.edu/activate/

• CS4HS for CS Educators: http://www.cs.cmu.edu/cs4hs/

Thank You!