Welcome!!
The Challenges of Workforce Retraining in STEM Fields
Thank you to our briefing sponsors:
Presenters

- Karen Horting, CEO, Society of Women Engineers
- Dr. Terri Taylor Chambers, Director of Learning and Career Development, American Chemical Society
- The Honorable Jared Solomon, Maryland House of Delegates
- Nicole Isaac, Senior Director of North America Policy, LinkedIn
STEM Reentry: Returnships

May 29, 2019
## Engineering and Technology Job Growth

<table>
<thead>
<tr>
<th>Occupation</th>
<th>2016</th>
<th>2026 Estimate</th>
<th>Job Openings due to Growth, 2016-2026</th>
<th>% Growth</th>
<th>2017 Median Annual Wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer programmers</td>
<td>294,900</td>
<td>273,600</td>
<td>-21,300</td>
<td>-7.2%</td>
<td>$82,240</td>
</tr>
<tr>
<td>Software developers, applications</td>
<td>831,300</td>
<td>1,086,600</td>
<td>255,300</td>
<td>30.7%</td>
<td>$101,790</td>
</tr>
<tr>
<td>Software developers, systems software</td>
<td>425,000</td>
<td>472,100</td>
<td>47,100</td>
<td>11.1%</td>
<td>$107,600</td>
</tr>
<tr>
<td>Aerospace engineers</td>
<td>69,600</td>
<td>73,800</td>
<td>4,200</td>
<td>6.0%</td>
<td>$113,030</td>
</tr>
<tr>
<td>Agricultural engineers</td>
<td>2,700</td>
<td>2,900</td>
<td>200</td>
<td>7.4%</td>
<td>$74,780</td>
</tr>
<tr>
<td>Biomedical engineers</td>
<td>21,300</td>
<td>22,800</td>
<td>1,500</td>
<td>7.0%</td>
<td>$88,040</td>
</tr>
<tr>
<td>Chemical engineers</td>
<td>32,700</td>
<td>35,100</td>
<td>2,400</td>
<td>7.3%</td>
<td>$102,160</td>
</tr>
<tr>
<td>Civil engineers</td>
<td>303,500</td>
<td>335,700</td>
<td>32,200</td>
<td>10.6%</td>
<td>$84,770</td>
</tr>
<tr>
<td>Computer hardware engineers</td>
<td>73,600</td>
<td>77,600</td>
<td>4,000</td>
<td>5.4%</td>
<td>$115,120</td>
</tr>
<tr>
<td>Electrical engineers</td>
<td>188,300</td>
<td>204,500</td>
<td>16,200</td>
<td>8.6%</td>
<td>$95,060</td>
</tr>
<tr>
<td>Electronics engineers, except computer</td>
<td>136,300</td>
<td>141,300</td>
<td>5,000</td>
<td>3.7%</td>
<td>$102,180</td>
</tr>
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<td>2016</td>
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</tr>
<tr>
<td>Environmental engineers</td>
<td>53,800</td>
<td>58,300</td>
<td>4,500</td>
<td>8.4%</td>
<td>$86,800</td>
</tr>
<tr>
<td>Health and safety engineers</td>
<td>25,900</td>
<td>28,100</td>
<td>2,200</td>
<td>8.5%</td>
<td>$88,510</td>
</tr>
<tr>
<td>Industrial engineers</td>
<td>257,900</td>
<td>283,000</td>
<td>25,100</td>
<td>9.7%</td>
<td>$85,880</td>
</tr>
<tr>
<td>Marine engineers and naval architects</td>
<td>8,200</td>
<td>9,200</td>
<td>1,000</td>
<td>12.2%</td>
<td>$90,970</td>
</tr>
<tr>
<td>Materials engineers</td>
<td>27,000</td>
<td>27,500</td>
<td>500</td>
<td>1.9%</td>
<td>$94,610</td>
</tr>
<tr>
<td>Mechanical engineers</td>
<td>288,800</td>
<td>314,100</td>
<td>25,300</td>
<td>8.8%</td>
<td>$85,880</td>
</tr>
<tr>
<td>Mining and geological engineers</td>
<td>7,300</td>
<td>7,900</td>
<td>600</td>
<td>8.2%</td>
<td>$94,240</td>
</tr>
<tr>
<td>Nuclear engineers</td>
<td>17,700</td>
<td>18,400</td>
<td>700</td>
<td>4.0%</td>
<td>$105,810</td>
</tr>
<tr>
<td>Petroleum engineers</td>
<td>33,700</td>
<td>38,800</td>
<td>5,100</td>
<td>15.1%</td>
<td>$132,280</td>
</tr>
<tr>
<td>Engineers, all other</td>
<td>132,500</td>
<td>141,000</td>
<td>8,500</td>
<td>6.4%</td>
<td>$97,250</td>
</tr>
</tbody>
</table>

Engineers in the Workplace

Women in Selected STEM Occupations, 1960 to 2017

Why a Returnship Program Targeting Women

Research shows there are about 2.5 million women in the USA with STEM degrees.


2017 White Paper: An Intervention Strategy to Re-engage Women Engineers in the Workforce

The 2017 Task Force white paper demonstrates the value proposition of the STEM Re-entry Task Force through interviews with Founding Members of the Task Force.

32% or 800k have Engineering and Computer Science Degrees

27% or 216k of those women have left engineering

25% or 54k left to spend more time with family
STEM Reentry Task Force Mission

Increase the pipeline of female STEM sector talent by including women with technical degrees who are returning from career break*

Create structural change in the STEM sector by introducing the reentry internship as a vehicle for engaging with returning technical women

* Note men are eligible to apply for and participate in Task Force programs.
Why the STEM Reentry Task Force?

Access to the Top Thought Leadership
➢ Including best practices, examples of program design, landing pages and position descriptions

Press, Marketing and Social Media through the extensive networks of SWE and iRelaunch;

Monthly Meetings and TEAMWORK Access
➢ Organized monthly meetings (one in-person and the others virtually) with relevant content

TEAMWORK hosts best practices, meeting notes, videos, sample job descriptions, relevant articles and more

Check-ins outside the monthly meetings with SWE’s Jennifer Abman Scott and iRelaunch’s Carol Fishman Cohen (to dive deeper into specific issues)

Peer encouragement that keeps all organizations/program managers on track to deliver their pilot program

Sourcing
➢ access to SWE’s online Career Center, with your approval openings will be posted on the reentry microsite and social media promotion of open internships per your request
STEM Reentry Task Force Growth
Key Decisions and Actions

Define/Refine Program:
- Includes Vision/Mission
- Structure – length of assignment, location, salary/benefits

Identify Resources:
- Sponsor
- Program Manager
- HR Project Leader
- Recruiters
- Managers
- Hidden Jewels – self returners in your company

Communicate and Conduct Training:
- Socialize the Program
- Leverage Employee References & Networks
- Leverage Alumni Organizations
- Bring back “regrettable losses”
- Train the stakeholders including Recruiters & Managers

Convert to Fulltime and Evaluate:
- Review performance of individuals in Program
- Make conversion decisions
- Evaluate critical program parameters

Refine Program:
- Conduct Lessons Learned session
- Incorporate Lessons Learned into process
Other Non-Traditional Pathways

- Two year technical programs
- Community colleges
  - Some now designating all STEM campuses
- Partnerships with professional associations
Our Organization

• Founded in 1876 and chartered by the U.S. Congress, ACS is the world’s largest scientific society.

• ACS provides information, education, career services, professional development and engagement programs to help our members and scientists thrive in an ever-changing global economy.

• *Learning and Career Development* (within the ACS Education Division) provides resources and professional training opportunities for a broad range of stakeholders.
Workforce Training and Development
A multidimensional challenge:
• Exploring Career Options
• Finding and Landing Positions
• Accessing Technical/Professional Training and Development
Exploring Career Options

What opportunities and pathways are available? How are current and future chemists prepared for these pathways?

Current programming:

• Informational resources that acquaint chemists with information on career options (ACS College to Career)
• Tools and professional development for career planning and exploration (ChemIDP; Career Pathways)
Finding & Landing Positions

*How do chemists make meaningful connections with potential employers? How can chemists prepare to be competitive in their job search?*

Current programming:

- Local networking and professional development opportunities (*Career Navigator Live!*)
- Personalized consulting – resume/LinkedIn profile review, mock interviews (*ACS Career Consultants*)
Accessing Technical/Professional Training and Development

What kinds of short(er) term educational opportunities prepare chemists for their next positions?

Current programming:

- Post-baccalaureate and Second Career Scholarships and Mentoring for High School Chemistry Teachers
- Continuing Education
Thank You
Jared Solomon, Maryland House of Delegates
Nicole Isaac, Senior Director of North America Policy, LinkedIn
Thank you to our briefing sponsors: