



# Education and Workforce Development

## Moderators

James Groves, University of Virginia  
and

Rosemary Haggett, University of Toledo



## Questions for Consideration

- How can business stimulate the development of STEM workforce education and training initiatives?
- What are the challenges associated with connecting STEM workforce education and training initiatives with companies and their employees?
- What role should state government / business play in supporting / sustaining workforce education and training initiatives?
- Where is the balance between education for existing high-technology companies and markets and future markets and workforce?
- Are there creative ways in which STEM education and entrepreneurial enterprise knowledge can be woven together into a single education initiative?



## How can business stimulate the development of STEM workforce education and training initiatives?

- Students
  - Shadowing
  - Internships
  - Plant visits
  - Engineers in the classroom
  - Corporate support of national informal education programs (FIRST)
- Teachers
  - Provide them with knowledge of engineering too!
- Why try to buy your most critical resource on the spot market?
- Often company involvement depends heavily of the mindset of the corporate leader.

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## What are the challenges associated with connecting STEM workforce education and training initiatives with companies and their employees?

- Finding the right person / people in the company to articulate corporate needs.
  - CEO is not the right person!
  - Find middle managers closer to the action.
- Finding a common statement of needs across companies.
  - Soft skills are easy to agree upon.
  - Agreement on detailed skills knowledge is much more challenging.
  - Working with trade associations and workforce development boards may provide an alternate route for defining key educational needs.

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## What role should state government / business play in supporting / sustaining workforce education and training initiatives?

- Encourage transformation and change.
  - K-12 system is very rigid.
  - K-12 (and university) education is performed today just as it has been for many, many years.
- Introducing new content into credit curricula is difficult. Non-credit offerings represent an easier route forward.
- States are usually more focused upon recruiting new companies from outside the state than they are upon supporting the workforce education and training needs of existing corporate residents.



## Where is the balance between education for existing high-technology companies and markets and future markets and workforce?

- Focus
  - On problem solving more than specific markets.
  - Requires curriculum flexibility which is largely missing.
  - Requires carefully developed modules and lesson plans.
- Educational practice
  - Have not kept pace with societal transformation.
  - Needs to be lifelong, not just K-16 and graduate school.



**Are there creative ways in which STEM education and entrepreneurial enterprise knowledge can be woven together into a single education initiative?**

- Get teachers involved in industry.
- Get the real world into the classroom and students into the real world.
- Involve parents so that they can support and understand their children's educational activities.
- Don't forget the role of play (unstructured, relaxed interactions) in successful creativity.