# Engineering in K-12: What can we do to help?

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***ENGI NEERING* EMPOWERING SOCIETY**

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# General Observations

- Need more connection in STEM subjects
- Possible benefit of improved student learning of math and science through engineering education – Big E in “stEm”
- Must align engineering education with accepted ideas of the discipline of engineering
  - Education should emphasize design – specifically, design with constraints
  - Experience should be highly interactive, produce many acceptable solutions, and be in a contect for learning math and science

# General Observations - 2

- Engineering intervention (to produce more scientist and engineers) at the high school level is too late
- No accepted view of K-12 engineering education
  - Limited funding for curricular development
  - Limited interaction between engineering schools and education schools
- Need more curricular and professional development in K-12 engineering education

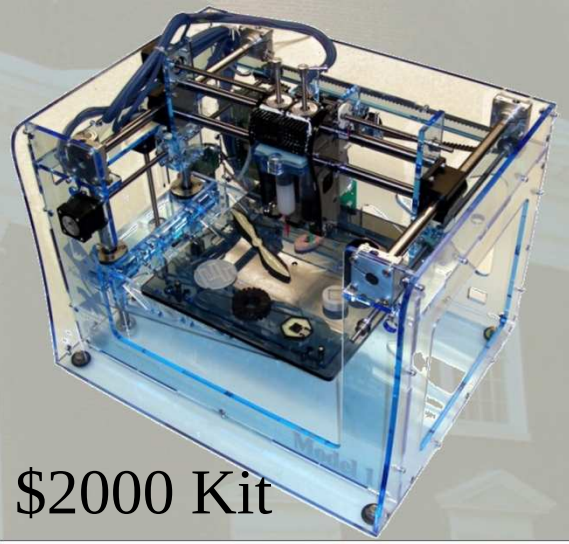
# General Observations - 3

- Technology is inexpensive and available

## 3-D Digital Fabrication

### Mechanism for Integrating Engineering into K-12

- Fab can motivate students by taking their concepts to physical form
- Fab can facilitate
  - Student engagement
  - Development learning
  - STEM learning



$2000 Kit

# Opportunities for Involvement

- Help shape existing K-12 programs like Project Lead the Way, FIRST, etc.
- Help guide the development of K-12 engineering standards
- Create collaborative engagement with education school deans