

STEM Careers Partnerships: How Business Partnerships Can Be Used to Engage Students in STEM Careers

Project Opening Doors: An AP mathematics and science strategy to prepare under-represented students for college success and STEM careers



Judy Resnick

Executive Director CBIA Education Foundation and
Principal Investigator (Cohort 7)



Who Are We?

- Connecticut Business & Industry Association - largest CT business organization (10,000 members)
- Leading voice for policies that promote economic growth
- CBIA's Education Foundation (non-profit affiliate of CBIA) – *Mission: To develop a skilled workforce in Connecticut*

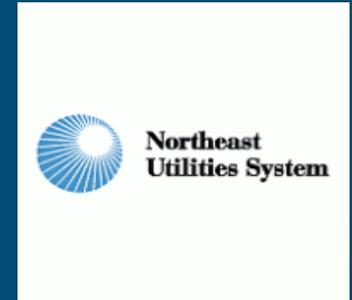


CBIA/NSF ITEST

- Use problem-based learning to engage and motivate students
- Increase enrollments in Advanced Placement
- Involve STEM professionals as mentors and role models
- Connect classroom learning to STEM careers – “*relevance*”



Our Partners





The Cyber-Challenge Wiki

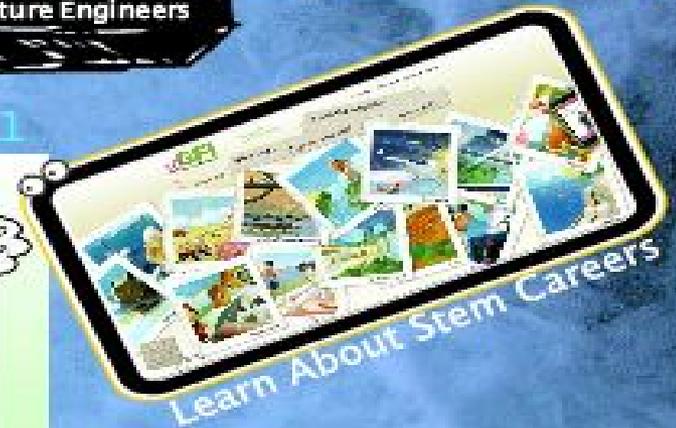
A collaborative online project where students use technology to communicate and compete to solve industry problems!



Cyber-Challenge Winners from 2011



2ND AND 3RD PLACE WINNING TEAMS



[Click here to find out!](#)



- Actions**
- Wild Home
 - Projects
 - New Page
 - Recent Changes
 - Manage Wiki
- Search Wiki

- Navigation**
- Home
- About this Project**
- Cyber-Challenge Information
 - What You Need to Know!
 - Wiki Instructions
 - How to Use This Wiki

- 2011 Winners**
- 1st place
 - 2nd place
 - 3rd place

- For Teachers**
- Teacher Training
 - Events Calendar
 - Documents

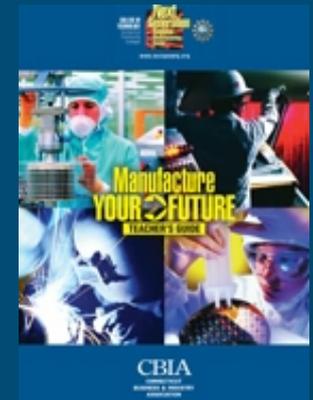
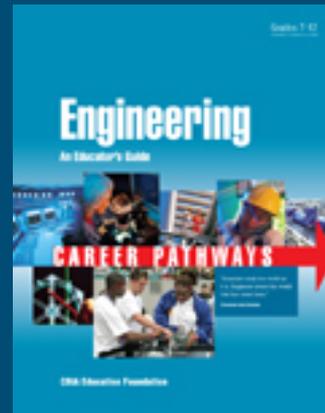
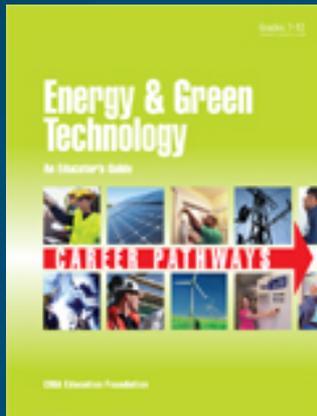
- Challenge Teams**
- East Hartford
 - New Britain
 - Wiley

- Cyber-Challenge Questions**
- Challenge 1 - Pizer
 - Challenge 2 - GG
 - Challenge 3 - NU
 - Challenge 4 - LT

- Winner of the Week**
- Wild Spirit Wiki Winner

- Wiki Rules**
- 21st Century Skills
 - Web2.0
 - Why Technology
 - Information Literacy
 - News

CBIA Education Foundation Career Exploration

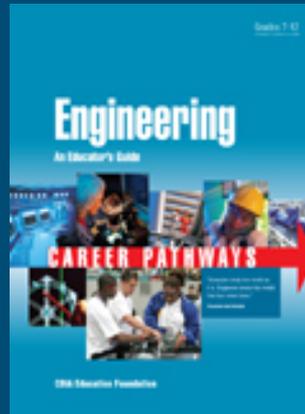


<http://www.cbiam.com/edf/>



<http://www.getintoenergyct.com>





<http://www.youtube.com/watch?v=jFLNRfuKVM>

To view all the profiles in the DVD series
<http://www.cbiam.org/edf/CareerPathways.htm>



Connecting to Business

- Building Business-Education Partnerships
 - Reach out to chambers of commerce, business and trade associations
 - Understand the “WIFM” and common goals
 - Identify individual champions
 - Facilitate the process (eliminate bureaucracy)



Desiree Cika, Senior Director, Business Technology Pfizer Worldwide Research and Development



Desiree is a Senior Director in information technology at Pfizer's drug discovery and development center in Groton. She is a member of the Connecticut leadership team. Desiree has a Bachelor's of Science degree in chemical and materials engineering from the University of Connecticut and a Master's degree in computer science from Rensselaer Polytechnic Institute. She has over 25 years experience in pharmaceuticals and engineering.



About Pfizer

Who We Are and What We Do



The world's premier
biopharmaceutical
company.





Applying innovative science to improve health and well-being throughout the world.





Proud to be part of an industry
that has helped treat, cure and eradicate
life-threatening diseases

We are ...



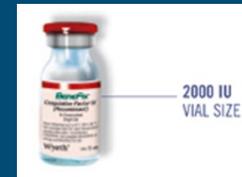
Working together for a healthier world

From Advil to Zithromax...

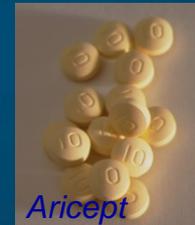
Our medicines, vaccines, consumer and nutritional products help billions of patients.



(Pevnar 13)



(Benefix)



Aricept



Pfizer and the Community

- Pfizer is committed to encouraging students to pursue careers in Science, Technology, Engineering and Math
- Pfizer has sponsored community programs over the past 2 decades:
 - SMART: Science and Math are Really Terrific, volunteering within local school districts
 - SAMJAM: Science and Math Jamboree, hundreds of scientists hosting thousands of middle school students
 - SMART kits: science kits-to-go
 - Summer internships and co-ops
- Pfizer has partnered with the Connecticut Business and Industry Association over the past several years, including participation in the Cyber-Challenge



Pfizer and CBIA Cyber-Challenge Collaboration

- Cyber-Challenge questions help develop the scientific method and provide real world challenges
 - Diabetes
 - Antibiotics
 - Vaccines
- Hosting students in industry setting
- Scientists visiting high schools
- Science teacher externship
 - Lab tours
 - Industry experience connecting back to the classroom
 - Update of our science kits



For the Sake of...our Future Scientists

- Inspiring the next generation of scientists
- Inspiring our own scientists
- Personal experiences
 - Continue our legacy of community involvement
 - International Year of Chemistry (2011)
 - 100th anniversary of the Nobel Prize awarded to Madame Marie Curie—an opportunity to celebrate the contributions of women to science
 - Finding personal inspiration
- Industry seeks students with:
 - Technical/Functional ability*
 - Acts Decisively/Accountability*
 - Grows Self/Self Aware
 - Change Agile
 - Peer relationships*

*Cyber-Challenge helps develop these skills



Brian Mooney

Design Engineer

General Electric Company



Education:

Bucknell University 2008

Bachelors Mechanical
Engineering

Minor in Physics

Edison Engineering
Development Program
(EEDP) Graduate 2010



Work History:

Started 2007 at GE as a technology intern

Full time hire into the EEDP Program 2008

Residential Products

Industrial Circuit Breakers

Innovation

Equipment Project Manager

Current role as lead technology support on GE's \$70MM
Busway product line

DFSS / DMAIC Six Sigma Green Belt Certified

1 European Patent Granted

7 Patents pending



GE Energy

POWER & WATER

- Aeroderivative Gas Turbines
- Gas Engines
- GE Hitachi Nuclear Energy
- Global Projects Operation
- Power Generation Services
 - Parts & Repair Services
- Renewable Energy
- Thermal Products
 - Environmental Services
- Water

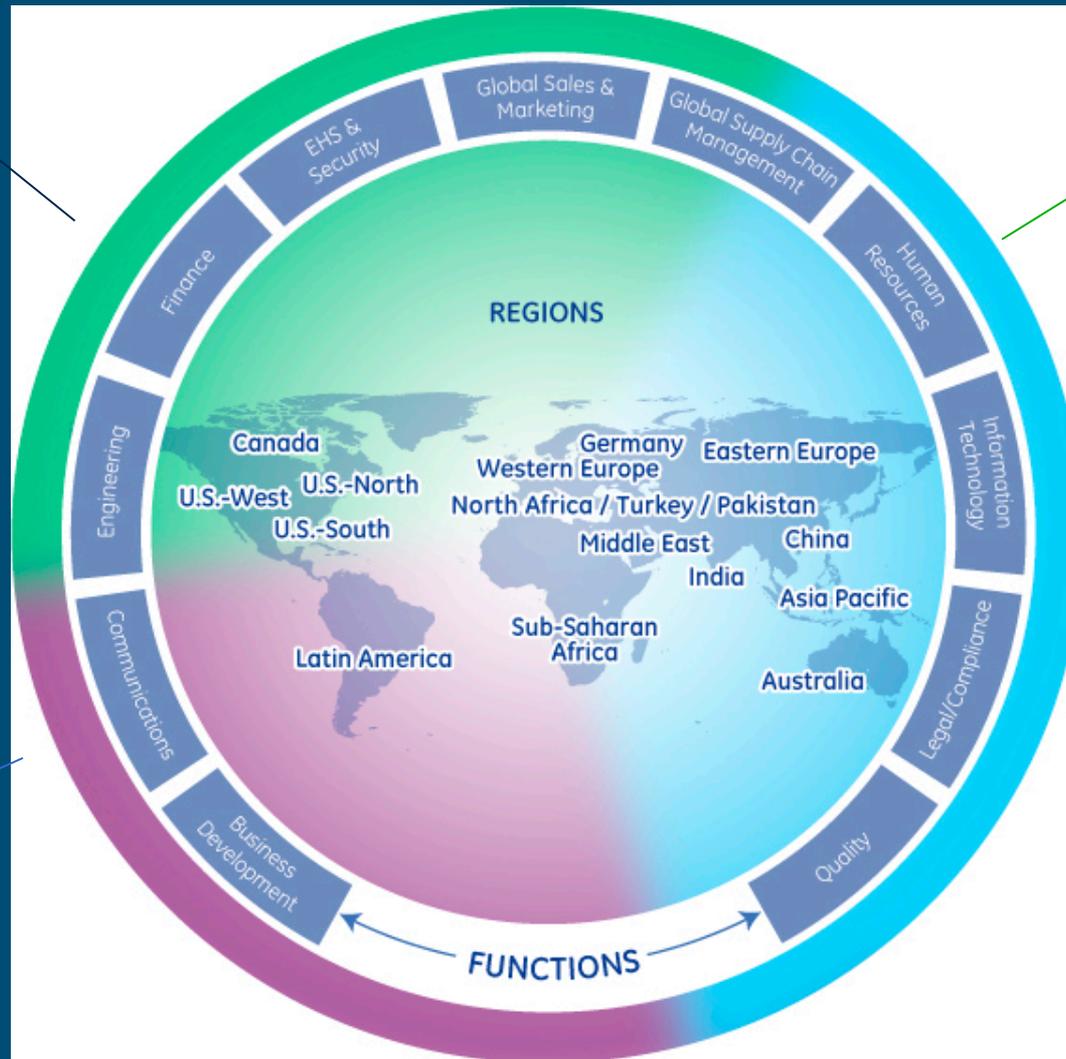
OIL & GAS

- Drilling & Surface
- Global Services
- Measurement & Control Solutions
 - Dresser
 - Wayne
- PII Pipeline Solutions
- Subsea Systems
- Turbomachinery

ENERGY MANAGEMENT

A new P&L focused on integrated solutions that enable customers to benefit from the efficiency and reliability of electric powered systems and processes.

- Digital Energy
- Industrial Solutions
 - Lineage Power



What products do we make?

Components

Circuit Breakers

IEC/NEMA Air Circuit Breakers

IEC/NEMA Molded Case Circuit Breakers



Residential & Controls

IEC & NEMA Circuit Breakers

IEC & NEMA Controls

NEMA Enclosures



Electronics Systems

Trip systems
Entellisys Switchgear
Variable frequency drives
Electronic controls
AFCI Circuit Breakers



Equipment

NEMA Equipment

Low Voltage Switchgear
Motor Control Centers
LV Switchboards, LIS
Lighting & Power Panels
Busway

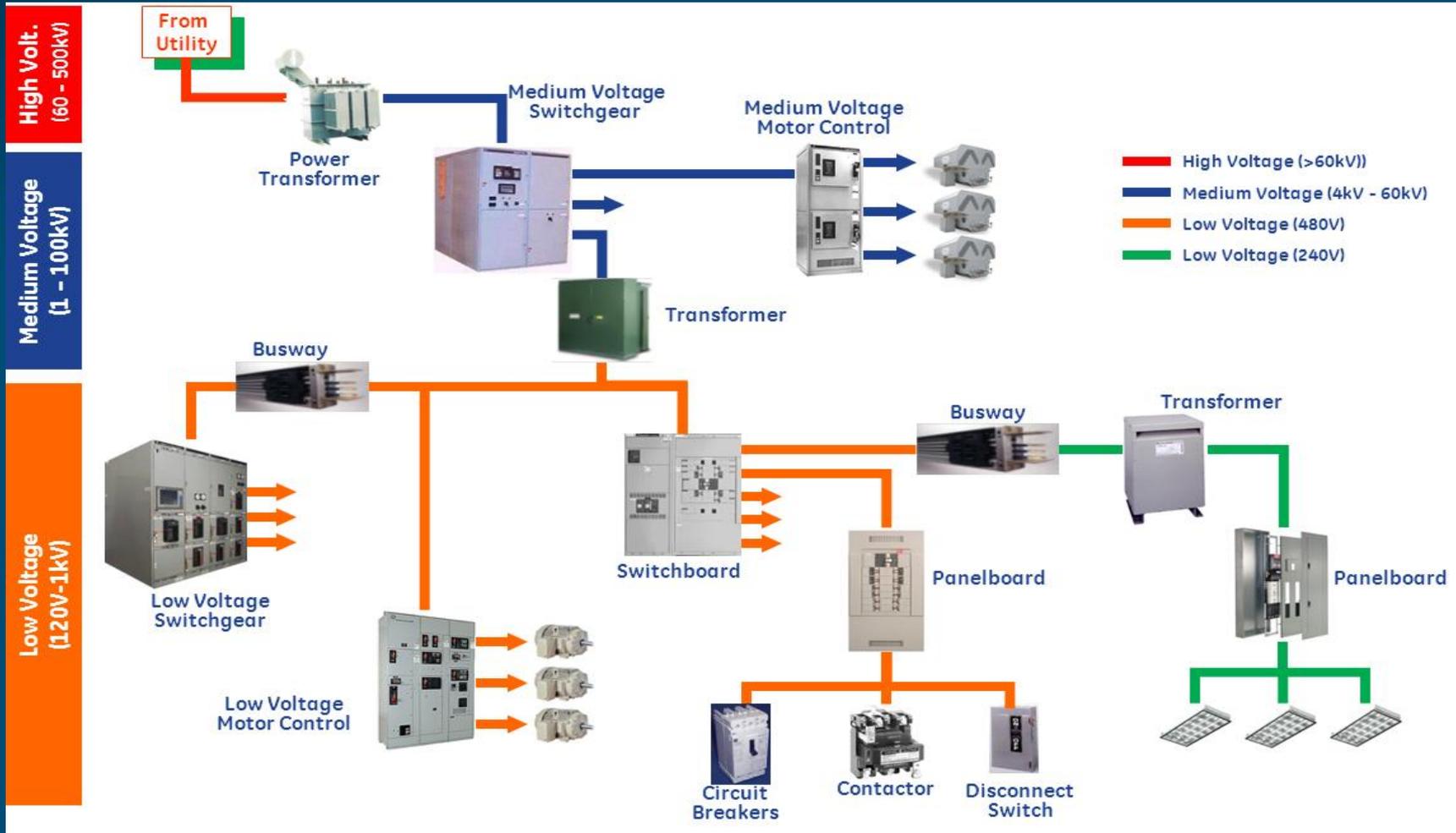


IEC Equipment

Low Voltage Switchgear
Medium Voltage Switchgear
Busway



Typical electrical distribution network



GGE Involvement in CBIA Cyber-Challenge

- Challenge youth with unique problems
- Foster excitement for math and science
- Allow students to grow with both questions and hands on experiments



Personal involvement in CBIA Cyber-Challenge

- Hope to inspire students to challenge themselves
- Make Engineering more tangible and thus more realistic to students as a future path
- Rewarding to see students learn and grow

