

## CTE NOTES AND NEWS

Good afternoon,

I hope everyone had an enjoyable weekend. I've added a few additional groups to this newsletter (e.g. BCPS Robotics, PLTW Advisory Council), as well as included a number of updates below, such as links to collaborate, for each of our content areas (please see *Who to Ask*, section). I've also been asked for sub plans/instant design challenges. In turn, Ruth Akers and I have shared the *Georgia Cookbooks For Technology and Engineering Education*, a great resource, compiled by educators such as yourself.

- Cookbook 1: <http://www.ctsoadvisor.com/cotsa/files/Cookbook1.pdf>
- Cookbook 2: <http://www.ctsoadvisor.com/cotsa/files/Cookbook2.pdf>

Have a great week! - Mike

## GOOD NEWS

### 🌟 1st Annual Robotics Informational Session

- The 1<sup>st</sup> *Annual BCPS Robotics Informational Session*, was held this past Friday, at High Topps, in Timonium. It was an opportunity to hear updates for this year from the CTE Office, network, and schedule scrimmages. We also raffled off free VEX products, and had 26 participants!
- As we continue to come together, across the county, I encourage you to:
  - **Schedule Scrimmages**
    - Work with neighborhood schools, or reach out across the county. Please email me to add your scrimmage to the calendar of events, or to include in the next newsletter.
  - **Tweet and Share Resources**
    - Share updates and resources across the county. Feel free to use #OMGrobots and tag @grubbsmg
  - **Upcoming BCPS County Competitions**
    - November 11<sup>th</sup>, 2017 (VEX IQ/MS EDR)
      - Lyons Mill ES
    - November 18<sup>th</sup>, 2017
      - TBD



### Share Information

If you would like to share information, or make requests, to be included in the next newsletter, please email [mgrubbs@bcps.org](mailto:mgrubbs@bcps.org) each Sunday, by 2:00 p.m. Our goal is to publish this newsletter each week, by Monday.

# TECHNOLOGY AND ENGINEERING EDUCATION RESOURCES, DESIGN CHALLENGES, & EVENTS

09/25/2017



## LEADERSHIP CHALLENGE

### Present at the TEEAM Conference

Consider applying to present at the TEEAM Conference, on October 20<sup>th</sup>, at Sollers Point Technical HS. Please use the following link, and consider sharing the innovative lessons/activities, you are engaged in.



[Apply to Present](#)

## RESOURCES, LINKS, & NEWSLETTERS TO CONSIDER

- [Maryland Engineering Challenges](#)
- [Link Engineering](#)
- [ITEEA](#)
- [YAE \(Youth for Astronomy & Engineering Program\)](#)
- [Engineering is Elementary](#)
- [eGFI](#)
- [Engineer Girl](#)
- [NERDGIRLS](#)
- [Women in Engineering](#)
- [TEEAM](#)

## NETWORKING OPPORTUNITIES

- Maryland Business Roundtable (MRT) <http://mbrt.org/>
- NSBE <http://www.nsbe-bmac.org/>
- Baltimore STEM Alliance <http://www.baltimorestemalliance.org/>
- Center for Educational Outreach <http://engineering.jhu.edu/ei>
- Mid Atlantic Girls Collaborative [LINK](#)

## UPCOMING EVENTS

- **TEEAM Conference**
  - Friday October 20<sup>th</sup> at Sollers Point Technical HS. The CTE Office plans to conduct PD this day, please consider presenting as well. If you're interested, you can email me for additional information.
- **School Visits**
  - The CTE Office will be conducting school visits, to review labs, beginning next week, and occurring through October 2<sup>nd</sup>. This is meant to inform us, as we plan, but also to ensure equipment is bolted down, signage/posters are up, and storage/resource needs are adequate.
- **Webinars**
  - **Safer Makerspaces, Fab Labs & STEM Labs: Building in Safety!**
    - **September 25<sup>th</sup> at 4pm EST** - Presenters Dr. Ken Roy and Dr. Tyler Love. This webinar series is FREE to ITEEA members. The fee for non-members is \$45. [REGISTER HERE](#)
  - **The Decision Matrix**
    - Learn how to implement a decision matrix as a design assessment tool by using a CONSUMER REPORTS style in-class activity. **October 23, 2017 at 4:00PM** - Presenter Todd R. Kelley. [LEARN MORE.](#)
  - **Building Pathways to Equity Through STEM Programs**
    - Wednesday October 4 at 2:00 ET
    - This seminar will feature leaders from the Boston Public Schools (BPS), and the Frisco ISD in Texas, who will discuss how their districts are ensuring equity of access to STEM learning for all

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09/25/2017



student populations. We'll also learn some strategies and advice that can be used in any district for integrating robotics and building STEM programs in an equitable way.

- We're looking forward to an informative presentation and discussion, plus live Q&A. Even if you aren't able to attend the live event, feel free to register and you will receive access to the presentation and the event recording.
- [Building Pathways to Equity Through STEM Programs.](#)
- [Register](#)

## WHO TO ASK

In Technology and Engineering Education, one of our focal points this year, is to continue to work together and are all happy to help each other, but in order to support our team most efficiently it is helpful to know who to ask for help, beyond Ruth Akers, and myself: *\*If you're looking for leadership opportunities, or would like to move our programs forward, in a more county wide perspective, please email me directly.*

What's my Question?	Who to Ask?	Collaborative Link
MS Technology Education	Michael Tedeschi: <a href="mailto:mtedeschi@bcps.org">mtedeschi@bcps.org</a>	Email M. Grubbs to be added
MS PLTW	Kevin Peck: <a href="mailto:kpeck@bcps.org">kpeck@bcps.org</a>	Email M. Grubbs to be added
HS PLTW	Chris Buckler: <a href="mailto:sbuckler@bcps.org">sbuckler@bcps.org</a>	Email M. Grubbs to be added
HS FoE	Ruth Akers: <a href="mailto:rakers@bcps.org">rakers@bcps.org</a>	Email M. Grubbs to be added
HS ADA	Jill Bartlett: <a href="mailto:jbartlett@bcps.org">jbartlett@bcps.org</a>	Email M. Grubbs to be added
HS ED	Zack Wiseman: <a href="mailto:zwiseman@bcps.org">zwiseman@bcps.org</a>	Email M. Grubbs to be added
3d Printers	Robbie Oehrli: <a href="mailto:roehrli@bcps.org">roehrli@bcps.org</a>	Email M. Grubbs to be added
Robotics Competitions: BCPS Lead <ul style="list-style-type: none"> <li>✿ High School</li> <li>✿ Middle School</li> <li>✿ Elementary</li> </ul>	Michael McIntyre: <a href="mailto:mmcintyre@bcps.org">mmcintyre@bcps.org</a> Chris Buckler: <a href="mailto:sbuckler@bcps.org">sbuckler@bcps.org</a> Chris Putnam: <a href="mailto:cputnam@bcps.org">cputnam@bcps.org</a> Brendan Penn: <a href="mailto:bpenn@bcps.org">bpenn@bcps.org</a>	Email M. Grubbs to be added

## TEACHING RESOURCES

### • Visiting Engineer for High School Classrooms

- Invite an engineer to share his/her experiences with your high school students. Introduce them to the variety of exciting career opportunities available in the field of engineering and provide them with information about how to prepare in high school for an engineering career. Presentations can be modified to last 20 - 70 minutes. Engineers are available September through March 2018 and cover Maryland, Northern Virginia, District of Columbia, and Harrisburg, PA area. Contact Crystal Radford at 410-516-6224 or via [cradfor3@jhu.edu](mailto:cradfor3@jhu.edu)

### • EDUCATION FOUNDATION OF BCPS - 21ST CENTURY GRANTS

- The application process is NOW OPEN for all BCPS educators and office staff to apply for 21st Century Grants to support instructional projects in the 2017–2018 school year. Staff may refer to The Education Foundation of BCPS' Web site for detailed information regarding the grant application process. All applicants must be BCPS professional personnel. Proposals will be competitively reviewed by The Education Foundation of BCPS' Scholarships and Allocations committee. The deadline to submit applications (electronically) is on or before Friday, October 20, 2017, by 5 p.m.



### ○ **2018 Engineering Writing Contest**

- Challenge: Write a plea to your city or county council that makes the case for an infrastructure improvement and gives details of your suggested solution.
  - What is infrastructure? Communities, like people, need a few basic things to function properly:
    - They need to provide access to all the things people need to survive: breathable air, clean water, nourishing food, and basic shelter.
    - They need to provide people with opportunities to make a living.
    - They need to help protect the long-term health and safety of residents.
- [Link to Apply](#)

### ○ **Ten Recommendations for a Safer School Year**

- Proper planning at the beginning of the school year is imperative for teachers, supervisors, administrators, and school systems to promote safer STEM teaching and learning.  
<https://www.iteea.org/News/282/117984.aspx>

### ○ **CCBC Design, Fabrication & Advanced Manufacturing**

- The Design, Fabrication, & Advanced Manufacturing program is an Associate in Applied Science degree. It is designed to prepare students for employment or advancement in the fields of fabrication, manufacturing, industrial technology, and design, with an emphasis on emerging technologies and strategies. Students will be well equipped to compete in today's job market as the program combines traditional fabrication tools with new design and fabrication processes, including laser cutting, 3D printing, and 3D scanning. For additional information, please go to [www.ccbcmd.edu](http://www.ccbcmd.edu) and search for Design Fabrication and Advanced Manufacturing (DFAB) or call 443-840-5189.

# TECHNOLOGY AND ENGINEERING EDUCATION RESOURCES, DESIGN CHALLENGES, & EVENTS

09/25/2017



## DESIGN CHALLENGES & COMPETITIONS



The SourceAmerica Design Challenge is a national engineering competition aimed at creating innovative workplace technology for people with disabilities. There are two levels of the competition -- high school and collegiate. Student teams work with an individual with a disability through a nonprofit agency that employs people with disabilities. The goal is to invent a process, device, system or software that can enhance productivity or overcome workplace obstacles. Inventions are evaluated on their impact in the workplace.  
<http://www.sourceamerica.org/design-challenge>



<https://www.rubegoldberg.com/contests/>



Future City, a project-based learning program where students in 6th, 7th, and 8th grades imagine, research, design, and build cities of the future.  
[www.http://futurecity.org/](http://futurecity.org/)



In the VEX Robotics Competition, presented by the Robotics Education & Competition Foundation, teams of students are tasked with designing and building a robot to play against other teams in a game-based engineering challenge. Classroom **STEM concepts** are put to the test as students learn lifelong skills in **teamwork, leadership, communications**, and more. Tournaments are held year-round at the regional, state, and national levels and culminate at the VEX Robotics World Championship each April!  
<https://www.vexrobotics.com/vexedr/competition>



The contest that brings communities together is back for its third iteration. Epilog, Ultimaker, Dremel, Woodcraft, and DigiKey are offering up \$50,000 in useful tools that would round out any Makerspace. It's time to get together and get making for a chance to win for your team.



The Paradigm Challenge is an annual competition that invites students aged 4 to 18 around the world to use kindness, creativity, and collaboration to help solve a real life problem and make a difference in the world.  
<http://www.projectparadigm.org/#the-challenge>



Writing Contest  
For a chance to win up to \$500, imagine how engineering can help your community. Then write a plea to your city or county council to make the case for an infrastructure improvement.  
<https://www.engineergirl.org/2018Contest.aspx>



Day of Design is a national movement that teaches creative problem solving across the entire student pipeline, K-12 and collegiate, to eliminate the STEM gap by teaching students how to be innovators and create change in their own communities. The purpose is to engage teachers and students in design challenge activities leading up to our culminating event Oct 6th, 2017, Day of Design Live. <http://dayofdesign.com/>

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09/25/2017



## TWITTER ACCOUNTS TO FOLLOW!

@GrubbsMg – <https://twitter.com/GrubbsMg>  
@rakersREA- <https://twitter.com/rakersREA>  
@hzz929 - <https://twitter.com/hzz929>  
@HMSEaglesPLTW - <https://twitter.com/HMSEaglesPLTW>  
@altericdunston - <https://twitter.com/altericdunston> **NEW Teacher!**



### Hashtags:

- ✿ #BCPS3dprinting
- ✿ #BCPSRobotics
- ✿ #BCPSPLTW

**James Hemming** @JamesHemming4 · Sep 12  
Working together to build a robot at SRMS @SRMS\_Principal @CTE\_BaltCoPS  
#bcpsengineering

5

**Michael Grubbs** @GrubbsMg · Sep 16  
Magnet expo! Come learn about robotics #coding #engineering  
@CTE\_BaltCoPS @hzz929 @HerefordHSBulls

6