**SCHEDULE FOR THE EIGHTH ANNUAL BALTIMORE POLYTECHNIC STEM COMPETITION**

FEBRUARY 21, 2020

* 7:45-8:20 **Judges/Volunteers Arrive**
  + Alumni should report to BPI Foundation Conference Room
  + Senior volunteers will report to room 124. After checking in they will be introduced to the alumni members with whom they will be working and will then report to their stations to make sure everything is set for round 1 of the challenges
* 8:20-9:00 **Orientation**
  + At 8:20 an announcement will be made inviting teams to report to Banneker Hall
  + Cameron White, a Hopkins engineering student will give a 10 minute presentation on the Engineering Innovations program and Chemical Engineering
  + We will take about 15 minutes to go over expectations and logistics before sending teams to their first event.
* 8:40-9:00 **Judges/Volunteers Report to Event stations**
  + During this time period alumni judges and student volunteers should be at their assigned event station and be prepared for the arrival of the first set of competitors.
* **9:00 – 1:30 Compete!** Have fun, do your best, be good sports, be respectful to event staff and volunteers, demonstrate your Poly Spirit.

Here is where you should go for your first Event:

* + - * + Teams 1,9,17,25 go to Event A
        + Teams 2,10,18,26 go to Event B
        + Teams 3,11,19,27 go to Event C
        + Teams 4,12,20,28 go to Event D
        + Teams 5,13,21,29 go to Event E
        + Teams 6,14,22,30 go to Event F
        + Teams 7,15,23,31 go to Event G
        + Teams 8,16,24,32 go to Event H
        + At each rotation teams move to the next letter in the alphabet:

**A --> B --> C -->D -->E -->F --> G --> H --> A**

* + 9:00 - 9:30 Challenge 1\* (3 minutes to walk to next station)
  + 9:33 - 10:03 Challenge 2 (3 minutes to walk to next station)
  + 10:06 - 10:36 Challenge 3 (3 minutes to walk to next station)
  + 10:39 - 11:09 Challenge 4
  + 11:09 – 11:19 10 minute bathroom and snack break
  + 11:19 - 11:49 Challenge 5 (3 minutes to walk to next station)
  + 11:52 - 12:22 Challenge 6 (3 minutes to walk to next station)
  + 12:25 - 12:55 Challenge 7 (3 minutes to walk to next station)
  + 12:58 - 1:28 Challenge 8 (Following this event go directly to the cafeteria)
* **1:30 – 2:10 Lunch & Awards in the cafeteria**
* **2:15 – 3:05**  Students will be dismissed to their 8th period class

LIST OF CHALLENGES

**EVENT A:** Sustainable Design: Construct an efficient container

Description: Students figure out how to build a storage container with maximum volume using a single sheet of paper.

* Head Judge: Albert York
* Assistant Judges: Arielle
* Student Assistant (s): Mark Schultheis

**EVENT B:** Preparing For the Future: Feeding the Planet (Hepburn)

Description: Students use mathematical models to predict population growth and food supply in order to prepare for the future.

* Head Judge: Stu Lumsden
* Assistant Judges: TBD
* Student Assistant(s): Grace Adelelke

**EVENT C:** Environmental Advocacy – Poster Design

Description: Students create posters to provide information about an environmental issue or to advocate for action.

* Head Judge: Dee Dee Knieriem
* Assistant Judges: Vasiliki Koliofotis
* Student Assistant(s): Khanica Cambridge, Destinee Dunham

**EVENT D:** Solar Potential: Investigating solar energy

Description: Students measure the output of photovoltaic cells and design circuits by connecting the cells in series or parallel.

* Head Judge: Kerry Brandon
* Assistant Judges:
* Student Assistant(s): Johnny Uruza

**EVENT E:** Efficient Transportation: Programming Autonomous Vehicles (Timmons)

Description: Students create flow charts to “program” a driverless vehicle.

* Head Judge: Michael Hallmen
* Assistant Judges: Fetke
* Student Assistant(s): Kentiera Wood, Anahi Andino

**EVENT F:** Solar Computations and Simulations (Todaro/Massey)

Description: Students use the MIT Scratch programming environment to develop computer programs which calculate how much solar energy is provided by the solar panels in our parking lot and how much added capacity would be needed to provide all of the energy needs for a computer lab.

* Head Judge: B Semiatin
* Assistant Judges:
* Student Assistant(s): Dylan Weitzman,

**EVENT G:** Sinks and Sources: Carbon Levels in Our Air and Oceans (Wishart)

Description: Students conduct an investigation of carbon levels in water and relate their findings to the impact on oyster beds in the Chesapeake.

* Head Judge: Julian Brown
* Assistant Judges:TBD
* Student Assistant(s): Sheikei Morrison, Matt Arcillo

**EVENT H:** Climate Solutions – The “Wedge” Game

Description: Students discuss the costs and benefits various strategies for preventing future carbon emissions and select an ensemble of strategies to mitigate the severity of climate change.

* Head Judge: Dashaun Horshaw
* Assistant Judge: TBD
* Student Assistant(s): Shem Deiparine