K-12 STEM Report for Region 2 Annual Meeting

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R2 K-12 STEM Rep.

Hershey, PA May 4, 2019
Philadelphia Section

- Future City Competition – Jan 4th, 40 schools, ~400 students
- Delaware Valley Science Fair – Apr 3rd, 4 IEEE Judges, 900 entrants, 4 selected for IEEE Awards
- Beginners Guide to Arduino Workshop – 2014-2019, ~60 students and parents per session
  - Enon Tabernacle Baptist Church, provided STEM Outreach to underserved population, held 2x, 90 students
  - STEM Camp at Camp Adonai, taught by IEEE members, 2015-2018
    - IEEE funds and staffs this Summer STEM Camp
    - IEEE Organizer appointed to Church STEM Board
  - JAVA/Android Class for adults and students, ‘train the trainer’
    - Also taught at Imhotep Public Charter School
    - Adapted course to App Inventor to be more relatable for the kids, 2017-2019, 20-25 students aged 10-13
Baltimore Section

23rd Robot Challenge held Apr 14, 83 Teams began project
- 230 Students competed
- 23 Two-leg Robots and 16 Four-leg Robots completed all phases of the event
- Competition requires
  • Navigating a 6 ft obstacle course
  • Oral presentation to a panel of Engineers
  • Complete a 35 page report
- Competition Staffed by 63 IEEE members who planned, implemented and judged the contest
- Post event survey indicates that students are inspired to choose engineering as a career
- Franchised concept successfully by Southern NJ Section the past 10 years!
Northern Virginia Section

- Provides funds and volunteers to area schools at the elementary, middle and high school levels
- Provided Educational Kits to Libraries
- Provides Science Fair Judges: Fairfax County, Loudoun County, NOVA Regional, Prince William-Manassas Regional
- Camp Invention
Washington

- Provides IEEE 1\textsuperscript{st} and 2\textsuperscript{nd} Place Awards at three STEM Fairs in the area:
  - Prince George County
  - Montgomery County
  - District of Columbia
- Invites Winners to the Awards Banquet in May
West Virginia Section

- WVU Student Branch participates in Engineering Open Houses at WVU Tech and Marshall University
  - Engineering Day at Clay Center
  - 6-12 Students are welcome at all events
  - IEEE members provide demos and experiments

- Conducts Student Awards in STEM Fields Program to promote student interest in STEM
Susquehanna Section

- Multiple PACE Projects supported are:
  - MathCount Competition
  - CPEWC Engineer Fair @ Whitaker Science center
  - PENN STATE Harrisburg, Central PA Robotic Competition
  - CASEF Science Fair
Delaware Bay Section

- “Wonders of Electricity” course developed by two section members
  - Prepares students for the National Science Olympiad competitions
  - Workshop type event
- Section members participate in Junior Achievement’s “Career Fusion”
  - Members share information about their careers in EE
  - Hundreds of students reached each year!
Cleveland Section

- Presented overview to NASA Summer Interns at Glenn Research center on the benefits of membership provided by a professional organization
- Northeastern Ohio Science and Engineering Fair
  - Provides 4 section members to judge event
Dayton Section

- Supports two Science Fairs in the area
  - Each Science Fair has 200-300 students entered
  - Five awards given in STEM categories
  - Award Winners are invited to the Annual Awards banquet to display their projects and receive cash and a certificate
Lima Section

- No Stem Outreach activities to report
- Requested follow up to learn more about what other sections are doing in STEM
Southern New Jersey Section

- 10th Annual WIE Robot Challenge, grows larger each year
- IEEE WIE @ Stockton University with AAUW partner
  - Tween Tech, Jan 4, 180 Junior High Girls Science Workshops
  - Tech Trek, May 11, Meet and Greet Career event
  - Teen Teck, May 29, 9th -11th Grade Girls Science Workshops
  - Teck Trek, Jul 21-27 Summer Camp, 60 Middle School Girls
- Supported Speaker travel to WIE Leadership Conference in NY to present a paper on the Robot Challenge
- Jersey Shore Science Fair, provided 11 Judges, over 600 Student entrants, 4 Awards presented, 1st, 2nd, 3rd place Engineer Category and 1st Place WIE in Engineering
- Many members are volunteers for the Aviation STEM Program run by the FAA
  - Career Fairs
  - Classroom visits/lectures on a variety of science topics
  - Too many events to list!
Columbus Section

- Family Service Council projects in underserved areas of Columbus:
  - 1. VERB- Visualize-Embark-Realize-Become
    - www.project-verb.org (Milo Grogan area)
    - makerx robotics exhibit (k-12 youth built and programmed)
    - 20 PC lab digital workstations with OSU student volunteer instructors
  - 2. SLETG- Smart Linden Educational Technology Group (South Linden area)
    - Linden H.S. STEM Academy students Douglas rec. center 8 PC digital workstations
      - (Programming Logic - JAVA, HTML IV, Python, SQL mobile app development with i-phones and Androids)
    - Two Education/Workforce development programs:
      - Family Services Council (FSC a non-profit org),
  - 3. www.MakerX.org, primarily sponsored by ieeecolumbus is a growing annual event started 2018 gaining IEEE student memberships and FSC sponsors through the many vendors from these events. (Videos available with websites)
The Akron Section STEM activities are:

- Participate in the District STEM awards banquet and award two teacher grants for STEM teaching of EE.
- Participate in the STEM Science Fairs to judge projects and award up to 8 cash awards for EE and computer projects.
- Attend the family STEM event at the Akron Public Library.
- Attend the STEM field trip for third and fourth graders at the Kent State University.
- Attend the STEM conference at John Carroll University.
- Participate in several STEM Prep events for 3-5th grade students.
Pittsburgh Section
Erie Section
Lehigh Valley Section