

Students from several universities in the Saint Louis Section of the IEEE (Institute of Electrical and Electronic Engineers) participated in the annual “Black Box” competition which was held this year on Saturday October 26, 2019 at Southern Illinois University Edwardsville. Students from Southern Illinois University Edwardsville (SIUE), Washington University in Saint Louis (WUSTL), and Missouri University of Science and Technology (MS&T) participated in two separate categories: analog and digital. Five teams participated in the analog competition while four teams competed in the digital contest.

The analog black box completion is a contest where student teams (1 or 2 persons) are given an analog circuit enclosed in a “black box“. Students are then asked to draw the electrical schematic of the circuit inside. The box contains only four terminals which the teams use to make electrical measurements that help them unravel the mystery of what is inside the box. This year Steven Vendetti and Mark Derhake (SIUE) finished third while Shawn Gilles and Brycen Dhom (SIUE) finished second. Evan Fitzgerald (MS&T) won the analog competition. Evan was the first student in recent history to completely solve the problem!

In the digital contest, students are given a programmable logic device with a pre-programmed circuit. As in the analog contest, students observe the behavior of the circuit. They then are asked to describe the circuit which was programmed into an FPGA (Field Programmable Gate Array) based on their observations. Connor Monahan and Michael Horwitz (WUSTL) finished in Third Place. Joel Rahlfs and Brad Johnson (SIUE) finished second. Usman Khan and Cole Johnson (SIUE) won the digital contest.

Other students participating in the annual event were Patrick Naughton (WUSTL), William Long (WUSTL), Arman Serpen (WUSTL), and Christian Snipes (WUSTL) and Sam Stoner (MS&T). MS&T will host the 2020 contest. By long-standing tradition, the school which wins the analog contest hosts the event the following year. Cash prizes for the First (\$500), Second (\$300), and Third (\$200) place teams were awarded in both the “analog” and “digital” categories.





*Evan Fitzgerald (MS&T) - Analog First Place*



*Brycen Dhom and Shawn Gilles (SIUE)  
- Analog Second Place*



*Mark Derhake and Steven Vendetti  
(SIUE) - Analog Third Place*



*Cole Johnson and Usman Khan (SIUE)  
- Digital First Place*



*Brad Johnson and Joel Rahlfs (SIUE) -  
Digital Second Place*



*Connor Monahan and Michael Horwitz  
- Digital Third Place*