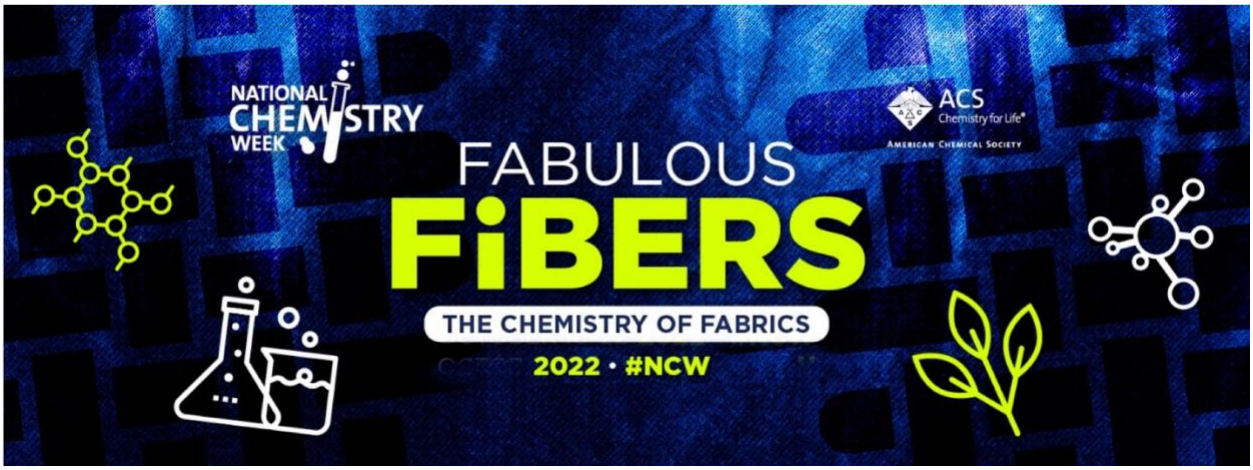

National Chemistry Week 2022!

Recapping the Free Event for the Public Held on Saturday Dec. 10th

The Independence School in Newark

By Jan Castro

For National Chemistry Week 2022, a free chemistry event and show themed "Fabulous Fibers: The Chemistry of Fabrics" was held at the Independence School in Newark, Delaware on December 10th. Approximately 80-100 attendees participated throughout the day's activities.

An annual event hosted by the Delaware Section of the American Chemical Society (ACS), this year's chemistry celebration included activity tables geared towards K-6, culminating in a chemistry show and demonstration presented by chemist, educator, and ACS fellow Mike Stemniski.

Throughout the day, activity tables hosted by different organizations engaged students in a broad range of chemistry and STEM concepts. These included DIY slime, interactive robotics, paper chromatography, and alka-seltzer rockets, which allowed students to use a chemical reaction between citric acid and sodium bicarbonate as a gas "rocket" propellant.

Hagley Museum, itself part of a long chemistry history involving 19th century gunpowder production to more recent innovations in synthetics like nylon and rayon, also operated a table at the event. Their table consisted of examples and explanations of different types of polymers, highlighting a project where students could fill a test tube with cross-linked polymers then, using an elastic string, making sodium alginate necklaces which they could take home.

On top of demonstrating a real-time chemical reaction, the students also made connections on how polymers also comprised everyday items like clothing, toothbrushes, or bicycle tires.

“One of the more memorable moments for us was to watch the students lift the newly created cross-linked polymers from its container and see how cool it was to have them all linked together,” Greg Cullen said, a Hagley volunteer who managed the activity table alongside his wife, Gloria, and Hagley staff member Amy Wilburn. “Many of the adult attendees took interest as well and they much appreciated the lesson.”

Other tables tackled advanced STEM concepts like radioactivity; its potential dangers, and how to stay safe from exposure or a radioactive event. Chemist and industrial hygiene consultant Norman Henry demonstrated to attendees how everyday household objects like bananas, watches, and dishware have detectable radioactive components.

“I’m focusing, basically, on radioactive things,” Henry said. “You may not be aware but things like antiqueware are coated in uranyl acetate, uranium, which gives it the pigment color of orange.”

The diversity of organizations present also contributed to the event’s success. Alongside Hagley, other tables were hosted by Delaware Girl Scouts, members of the Delaware Valley Alpha Chi Sigma Chemistry Fraternity, Delaware Technical Community College, MOE 365, and ACS Delaware, ultimately offering a wide selection of activities for attendees to participate in.

“I liked the bottle rockets, but they were all different,” Vivian Reagan, a local student, said. “Even though there were two about slime, one was about how to make slime, and the other was about the chemicals and the chemical reactions. The [tables] were teaching you something different.”

Finally, students and attendees had the opportunity to witness a series of exciting chemistry demonstrations as part of a show presented by Mike Stemniski, a lifelong chemist and University of Delaware professor of 50 years. Stemniski said, narrating the magical shifting colors in one of his demonstrations:

"I'm going to pour my ammonia solution into that graduated cylinder, and as you can see it changed color. The color is due to the fact that the ammonia is a basic solution. Now I'm going to add something that is going to react with water to form an acid, and hopefully it will neutralize that ammonia solution and we should be able to see a color change."

Stemniski's display of chemistry also showcased spinning fires, the launching of balls and toy pigs with tesla coils, and a series of chemical reactions that engaged and fascinated students.

"I had quite a bit of fun, and my favorite thing that I saw had to be the robots," local fifth-grader Patrick Palecko said at the end of the event, referring to the activity table hosted by the MOE 365 robotics team. "I'm interested in robotics and science at school too."

Jan Castro is a writer, University of Delaware alum, and native Delawarean who has been a proud student of Delaware educators.