INL scientist Dr. Robert V. Fox volunteered his time to mentor Bonneville High School senior Patrick McIlwain. Here, the pair tests a Class IV laser on a small graffiti location to familiarize themselves with its removal capabilities.

Idaho scientist helps student use laser to remove graffiti for senior project

By Keith Arterburn, *INL Communications & Governmental Affairs*

Idaho National Laboratory's award-winning researcher, Dr. Robert V. Fox, focuses like a laser on helping aspiring engineers and scientists learn about technologies, career potential and the benefits that applying technology can offer to a community.

"Young people need some help in understanding technologies like lasers," Fox said. "But just as importantly, they need to know how applied technologies can be used in a community to do good things."

Fox has dedicated dozens of hours to help Bonneville High School senior Patrick McIlwain get familiar with laser technologies and direct that knowledge toward a senior project with impact: removing graffiti from areas designated by Idaho Falls City Parks and Recreation staff.

Bonneville High School senior Patrick McIlwain studied laser technologies for his senior project and used the technology to clean graffiti from recreation locations.

"I thought learning about lasers would help me decide on whether I wanted to pursue a degree in engineering," McIlwain said. "So, I asked Dr. Fox if he would help me in learning about lasers, how they work and maybe even build my own laser unit.

"It has been very interesting and a lot of fun working on this senior project," he added. "I am planning on attending Montana State University next year and they have a good engineering reputation."

On a Saturday morning in September, Fox began the session with a safety briefing for McIlwain about operating the Class IV laser, ensuring the proper eye protection was provided. So passersby also would be protected from eye injuries, Fox placed opaque panels around the work, establishing a safety zone of about 60 feet beyond the panels. Fox had contacted Adapt Laser Systems, LLC in Kansas City, Mo., about donating the use of an appropriate laser to clean the graffiti for the project.

"At Adapt, we believe in supporting young people and their interests in our technology," said company President Georg Heidelmann. "It is particularly impressive when students want to contribute to improving their local community by removing unwanted graffiti from public properties."

Adapt serves all of North America as a leading supplier of laser cleaning technology and fume extraction systems.

Fox and McIlwain set up a safety zone surrounding the Class IV commercial laser they used to remove graffiti.

"We are most appreciative of the efforts made by Dr. Fox and Patrick McIlwain to remove graffiti from public walkways, bridges and scenic paths," said Greg Weitzel, director of Idaho Falls Parks and Recreation. "It is important for students to learn how difficult it is for communities to maintain parks and recreation equipment."

McIlwain and Fox spent most of the weekend cleaning six locations near Sportsman Park, adjacent to the Snake River in downtown Idaho Falls. The city greenbelt running path and pedestrian bridge were marked with small and large graffiti signs.

"It has been a real challenge to keep up with the amount of graffiti that occurs during the summer months," said Weitzel. "This senior project is helping us make progress on returning these areas to their original state for the benefit of our residents and visitors."

Fox, an inventor with about 20 patents, has often served as a mentor to students during the past dozen years. In 2011, he and another inventor earned a $5,000 prize for a technology entered in the Gordon Battelle Prize competition and sponsored by Battelle Memorial Institute in Columbus, Ohio. The prize was donated to Idaho Falls High School and helped refurbish outdated chemistry laboratories in the school.

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Feature Archive