

About the Cover:

The high school students and teachers who participated in the 2021 Broad Exposure to Science and Technology (BEST) Research Program are shown engaging in various aspects of science and technology that support LLE's laser research program. They explored microscopy, spectroscopy, electronic technology, lasers, optical design, liquid crystals, and holography. The importance of continued STEM education in research, was emphasized by former LLE director, Mike Campbell, to highlight the extensive teamwork required to make advancements in laser development and scientific applications.

The BEST program was carried out at East High School within the Rochester City School District during the summer of 2021. The participants of the BEST program (shown left to right) include East High teachers Trent Russell and Gavin Jenkins, East High students Yusuf Gazali, Reganae Walters, Taiasia Gibson, and Ramir Wearen, and program coordinator Terry Kessler, LLE Diversity Manager.

LLE mentors exposed the BEST students and teachers to the key technologies that are central to the construction and operation of the OMEGA Laser System. Electronic circuits were explored by dissecting computer systems and practicing the microsoldering techniques. Lasers were brought into the classroom for demonstration and exhibition. Both interferometry and holography were experimentally explored to manufacture diffraction gratings and holographic 3-D images. In addition, liquid crystal materials were used to manufacture polarization optics and color-tuned paints. The philosophy that underpins the BEST program is that multiple early exposures help guide students in their pursuits of STEM fields and encourages them to explore the next generation of related jobs and careers.



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