

# FORGES: Foundations for Recruitment of Great Engineers and Scientists, Summer STEM Exposure Program

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## High school STEM exposure summer program

- FORGES is a summer program designed to offer exposure and experience in collegiate-level STEM work to local high school students who are interested in a career or academic pathway in STEM. CHARM partners with University of Delaware (UD) departments and industry partners to provide hands-on activities, collegiate and industrial laboratory exposure, and interactions with faculty, students, and staff.
- 10 student participants and 3 high school teachers engaged in a variety of materials science, chemistry, biology, and physics activities including:
  - Using control samples and observation of properties to identify a mystery polymer at the Chemours lab.
  - Measuring the force required to fracture different materials to investigate the properties of composite materials in the Materials Science Engineering department.
  - Evaluating the mock viral status of an individual using an ELISA assay system in the Chemical and Biomolecular Engineering department.
  - Experimenting with different chemicals and voltage to observe the impact on electrolysis brass plating on a copper penny in the Chemistry department.
  - Instigating and observing sea urchin gamete shedding in the Biology department.
  - Using CRISPR technology to learn about and engage in basic gene editing at the Christiana Care Gene Editing Institute.
- Upon completion of the program, 87% of student participants reported increased comfort and confidence with attending college. 100% of participants reported that the program made them more likely to choose a career in STEM, increased their confidence in and understanding of STEM research, increased their comfort level with learning new STEM topics, and increased their confidence for doing future work in a laboratory.



Local high school students engaged in a variety of hands-on activities and investigations to learn more about the different pathways STEM has to offer.

