

**Name:** Kate Hennigan

**Year in Course:** 1st (Sophomore)

**Topic:** Microbiological Recycling

**Mentor:** Dr. Anthony Sinskey, MIT; Linda Zhong, MIT

**Title:** Polyethylene Terephthalate Recycling Methods Using Plastic Degradation

**Bio:**

Kate Hennigan is a sophomore at Pawling High School and has started her first year with the Science Research Program with hard work and determination. She has taken on a rigorous course load during this school year, including 1 AP class and 3 Honors courses. She became interested in the math and sciences during middle school, and taking new courses in high school has intensified her love of the subject material. When Kate is not intensely studying, she is playing sports. In the fall, she plays with the JV Pawling Soccer Team as the goalie. During the winter, Kate participates in the Pawling Wrestling Team. In the spring, Kate plays with the Pawling JV Lacrosse Team as a midfielder. Kate is a member of the Peer Leadership club and helps organize fundraisers, plan events, and aid the community in various events throughout the year. Kate is a member of the Debate Team and competes alongside her classmates against other high schools at debate tournaments throughout the school year. Kate hopes to attend West Point in the future. She aspires to study law as well as serve in the United State Army as a Commissioned Officer.

Kate’s passion for her research topic began when she started exploring topics of research before the start of her sophomore year. After reading many peer reviewed journal articles, she became interested in Material Engineering and found the topic plastic recycling and wastes to be a field that needed research and mitigation. She is interested in investigating biological enzymes that have the ability to degrade plastics. She is fortunate enough to be working with 2 mentors at MIT in exploring the applications of these macromolecules in reducing plastic waste worldwide.

Awards/Achievements/Competitions

1. 3 Sport Athlete with over a 97 Cumulative Average