

**Name:** Emily Farquhar

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

**Topic:** Exoplanets’ Atmospheres

**Mentor:** Dr. Nestor Espinoza, Space Telescope Science Institute

**Title:** Investigating the Presence of Elements and Compounds in Exoplanet Atmospheres

**Topic:** Exploring dreams and nightmares

**Mentor:** Dr. Karen Spruyt, Integrated Physiology Laboratory of the Awakening System

**Bio:**

Emily Farquhar is a sophomore at Pawling High School and has worked very hard during her first year within the Science Research Program. She has taken on a rigorous course load during this school year, including AP Seminar, and she hopes to push herself in order to understand the importance of perseverance even more. She became interested in the math and sciences when she was a little girl, and taking new courses in high school has intensified her love of the subject material. When Emily is not intensely studying, she is playing on one of two teams. In the fall, she is a member of the Varsity Girls’ Soccer Team. During the winter, she is a member of the Pawling Ski Team. Emily has been skiing and playing soccer since the age of 3 and sports is one of her passions. She joined both teams as a freshman and has become very close with her sports families through friendship, leadership, and overall hard work. Emily belongs to the Peer Leadership club and helps organize fundraisers, plan events, and aid the community in various events throughout the year. Additionally, Emily is a member of the Math Team and competes alongside her classmates against other high schools in math-related competitions. Emily is also a member of the Mock Trial and competes against other schools as a prosecution attorney. She is interested in becoming an entrepreneur in the advanced and innovative technology industry.

Emily’s passion for spatial exploration began when she started learning about exoplanets and the possibility to colonize them. After reading many peer-reviewed journal articles, she realized there was little research being conducted on water location on exoplanets. Therefore, she set out to find different reliable ways to identify water on exoplanet’s surfaces. Specifically, Emily is investigating ways to see if she can identify the presence of water in the atmospheres of exoplanets. In addition, she is exploring dreams and nightmares as well as cryogenics.