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## **Cedarville Research Could Impact Cancer Treatment Development**

**CEDARVILLE, OHIO** – Seven Cedarville University students hope their research findings will contribute to developing cancer treatment. The molecular and cellular biology students, under the direction of professor of biology Dr. Heather Kuruvilla, plan to submit two research papers for publishing within the next few months.

The students studied *Tetrahymena thermophila*, single cellular organisms with cilia on their membranes that are often model organisms for research. The projects specifically focused on how Tetrahymena functioned with proteins known as Netrin-1 and Netrin-3, which are used in the human body to signal development of branched tissues.

The first research project primarily focused on protein determination and the physical effects of netrin-1 treatment, and the second focused on the effect of netrin-3 proteins in mitosis, or cell division. While much is already known about netrin-1, this will be the first paper published on netrin-3 in seven years.

“My hope is that our paper will spark further research on netrin-3,” said Bethany Khol, a senior molecular and cellular biology student and lead author on the paper. “Most existing research has focused on its role in the nervous system during development, but we suspect it may have other roles in the body.”

In their research, the students found that netrin-3 stops cell division, which can be medically significant if it stops the division of cancer cells like it stops the division of Tetrahymena cells.

“Cancer treatment research is already looking at netrin-1, but there are potential treatments from netrin-3 if they start looking at it as well,” said Kuruvilla. “It wouldn’t kill cancer, but it could slow it down.”

The students involved have also benefited immeasurably from the research process.

“Researching for Dr. Kuruvilla for two years has allowed me to gain valuable experience in the lab and has enabled me to take my book knowledge and apply it to real-world situations,” added Kenneth Ward, a senior molecular and cellular biology student.

Projects such as these not only teach students valuable lab techniques and scientific methods, but also allow them to make meaningful contributions to science before finishing their undergraduate education.

“We didn’t study the latest potential cancer treatments or flashy drug regimen,” said 2017 alumnus Matthew Merial, who now works as a contract cellular biologist for Advanced Testing Laboratory. “But our work is a necessary step in general research, so we can know as much about the world as possible.”

Located in southwest Ohio, Cedarville University is an accredited, Christ-centered, Baptist institution with an enrollment of 3,963 undergraduate, graduate, and online students in more than 150 areas of study. Founded in 1887, Cedarville is recognized nationally for its authentic Christian community, rigorous academic programs, strong graduation and retention rates, accredited professional and health science offerings, and leading student satisfaction ratings. For more information about the University, visit [www.cedarville.edu](http://www.cedarville.edu).