

# UPDATE

For Friends of the Math and Science Division at  
Greenville University

## “GOTCHA!”

### Engineering Students Ramp Up Thief-Proof Design

Where some people see handicap assistance, others see opportunity. Residential aluminum wheelchair ramps touted as lightweight and easy to install are just as easy for thieves to remove, haul to a scrap yard, and convert into cash. “It’s a lot more common than you’d expect,” said one GU engineering major, part of a team set on developing an affordable thief-proof design. He tells of a homeowner who reported a ramp missing only two hours after its installation. With the research phase of their project behind them, the students hope to implement their design in the spring.

**When you give to GU’s Catalyst Fund, you become the catalyst** for creativity. Here’s a glimpse of last summer’s creative thinkers and problem-solvers:

- Collin Kessinger, Ye Jin Han and Johnny Wang, whose

research in quantum cryptography has the potential to impact data security.

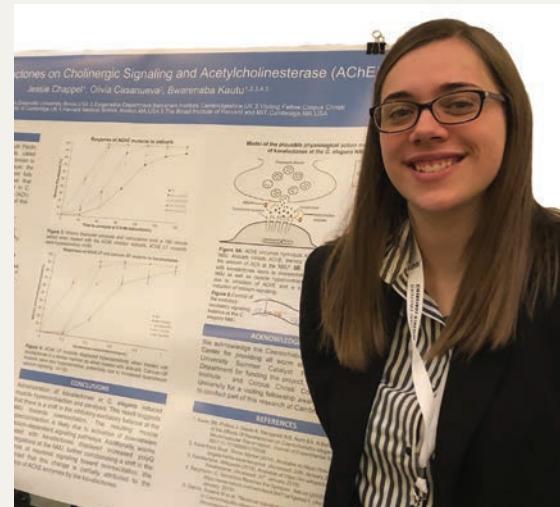
- Ethan Clements and Gabriella Pflederer, whose research may explain why some cases of malaria are more serious than others.
- Emmanuel Nava, whose research has the potential to relieve depression, ADD, and other emotional disturbances.
- Kristin Frailey and Brenna Wiens, whose research has the potential to prolong the lifespan of copper piping.
- Gabe Carter and Katie Webb, whose research sets the stage for eventual restoration of prairie land.



**“Thank you so much for this wonderful experience. It definitely helped prepare me for a career in science.”**

– Kristin Frailey, 2019 summer researcher, biology and chemistry major

## Jessie and You: Unstoppable



2019 was a **banner year for you** and Jessie Chappel '20, a veteran of GU's Summer Research Experience powered by The Catalyst Fund.

- In January, at Harvard University, she presented **research you helped fund**.
- In May, she received the prestigious Barry M. Goldwater Scholarship, a \$7,500 value, for undergraduates who show exceptional promise as research leaders.
- In June, she began a summer internship at Princeton University.

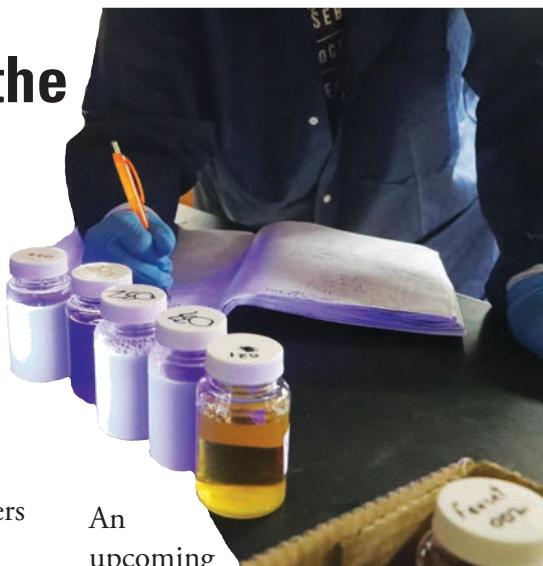
Before all this, Stanford University's *Journal of Bio-protocol* published an article Jessie co-authored about **research you made possible**. **Thank you for giving!**

# Logan, You and the Write Stuff

When researchers don't effectively tell their stories, their work goes unnoticed—but not so for student researchers you support through The Catalyst Fund.

- At summer's end, students presented their research to peers and professors.
- At Homecoming, they presented to returning alumni.
- In November, they presented at a fall gathering of St. Louis area science alumni, students, faculty, and emeriti faculty.
- This spring, biology researchers will present at the annual TriBeta regional meeting.

The research team engaged in GU's ongoing water testing project—**research begun with your help** through the Catalyst Fund—found a welcome audience for their story in *The Journal of Chemical Education*.



An upcoming issue will feature the team's work. The authors, including senior Logan Dameris, received highest praise from early reviewers.

"Our student researchers are enthused about this project," said newly retired Professor of Chemistry and co-author Darrell Iler. "They know it fills a void."

**Thanks to your help** through the Catalyst Fund, Logan will graduate with a published article to his name.

"Some programs don't even want a personal statement [in your application]; they want research experience."

*2019 summer science researcher, biology and chemistry major Ethan Clements '20 on postgraduate STEM programs*

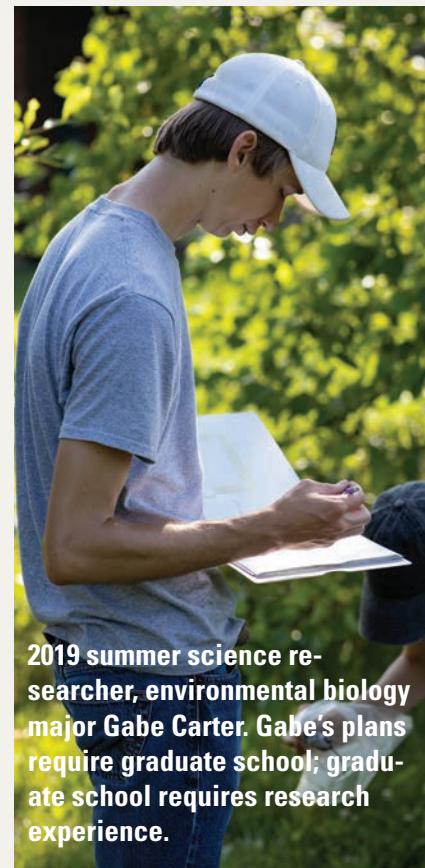
## You, the Catalyst, Hold the Key

*Every dollar you give goes directly to student research.*

Many students desire research experience, but to date, funds for Summer 2020 research only cover projects for four researchers. **Your gift to The Catalyst Fund today opens the door to more research for more students.** **Thank you for giving.**



Scientist image created by MHD ASMI DWI/PARNATA from the Noun Project



**2019 summer science researcher, environmental biology major Gabe Carter.** Gabe's plans require graduate school; graduate school requires research experience.



Give to the Catalyst Fund today: [greenville.edu/give](http://greenville.edu/give)