

GEOFORCE MONTHLY

Changing lives since 2005



Carlton Mueller doing research at the Ruby Mountains in Nevada.

WELCOME GEOFORCE COORDINATOR CARLTON MUELLER

After three years working as GeoFORCE summer educational staff, Carlton Mueller joined the team as a full-time coordinator this January 2022. Prior to moving to Austin, Mueller lived in Boulder where he received his Bachelor's degree then continued on to graduate school at the University of Colorado Boulder's Department of Geological Sciences.

"I believe I can uniquely assist the mission of GeoFORCE due to my own lived experience, my formal training as a STEM education researcher, and my research on bridge programs as a means to create positive support structures for student development, recruitment, and retention," Mueller said.

Before going to college, Mueller spent five years in the Marine Corps as an intelligence specialist. After the Marines, he worked as a backpacking guide in the Sierra Nevada and as a wilderness skills instructor for a youth summer camp. His undergraduate research at UC Boulder included field work in Colorado, Utah, Australia, Alaska, and California where he used thermochronology to date the history of the mountain ranges.

Toward the end of his undergraduate career, Mueller discovered that geoscience education was his passion. His Master's thesis focuses on bridge programs like GeoFORCE. His goal is to help students affectively develop by:

1. Motivating them through fascination and curiosity.
2. Cultivating their identity as scientists and GeoFORCE alumni.
3. Fostering a sense of community and belonging to other like-minded individuals, program staff, and UT Austin.
4. Giving them the tools to succeed through professional development which aids in their self-efficacy and college-readiness.

"I'm ecstatic to be a part of an organization that exemplifies change for the greater good of tomorrow's young adults, scientists, and communities," Mueller said.

GeoFORCE Texas is an outreach program through The University of Texas at Austin's Jackson School of Geosciences that introduces high school students from underserved communities to STEM and geoscience careers through summer field experiences, corporate mentoring, and college guidance. In 2015, our program was honored with the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring—the highest such honor from the United States government. More information can be found on our website at <https://www.jsg.utexas.edu/geoforce/>.



Tarzona at Dickinson College's Arctic and Alpine Climate Change Research Experience Program in Nunavut, Canada in 2019.

FIELD FORUM OPPORTUNITY

Apply for a seven-day Field Forum starting in Reno, NV and then travel across the range to visit locales in the northern Sierra for four days from a base in Grass Valley in the Sierra foothills. The group will then tour outcrops to the south from a two-night stay in Modesto after which they will return to Reno.

[Learn more and apply to participate](#)
by February 2nd, 2022!

INTERNSHIP & SCHOLARSHIP RESOURCES

- [Geoscience Research Programs & Internship Opportunities for Undergrads & Recent Grads](#)
- [Scholarships for Undergraduate & Graduate Students](#)
- [Scholarships for High School Students](#)

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Questions or comments? Email us at
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Photo: Dante Angelo Tarzona

ALUMNI SPOTLIGHT: DANTE ANGELO TARZONA

This December 2021, GeoFORCE Coordinator John Hash stood in front of the GeoFORCE poster at the American Geophysical Union's annual conference. For several hours, a steady stream of participants walked over to the poster to hear about the GeoFORCE Program. Halfway through the session, a young Ph.D. student from the Georgia Institute of Technology (Georgia Tech) walked up. Hash began to explain the program, then stopped as he recognized the student.

Dante Angelo Tarzona didn't need a primer on GeoFORCE. After all, he was a student of the program half-a-decade ago. John Hash was his coordinator on the fateful trip when Tarzona was about to enter 10th grade and GeoFORCE took him on a hike down the Grand Canyon.

"It's like traveling back in time," Tarzona said. "It really made me curious about Earth's processes and geologic history."

A few years later, Tarzona enrolled at Dickinson College as an earth sciences major. There, he was a member of the earth science club, a mentor at GeoPATHS field camp, and a co-mentor of MANDatory, a safe-space for first-year men of color. He also did a work-study for the Alliance of Aquatic Resource Monitoring as a watershed coordinator.

Now, Tarzona is a first-year Ph.D. student at Georgia Tech researching 1960s - 70s archival airborne radar echo sounding data on the Ross Ice Shelf.

"This research provides baseline information of subglacial structure at Ross Ice Shelf," Tarzona said. "And can be calibrated to compare with modern airborne radar echo sounding data that can help us understand multi-decadal changes."

To Tarzona, the research he's doing is one of the coolest projects he's been able to work on yet, but his favorite part is being allowed to mentor an undergraduate researcher in his group.

"I get to learn how to be a mentor and go over glaciological terms to my mentee," Tarzona said. "And there are upcoming opportunities in our group for outreach, teaching about glacial retreat or sea level rise in local school districts of Atlanta."

After receiving his doctorate, Tarzona hopes to pursue a postdoctoral degree or become a resident field-glaciologist somewhere in the Arctic or Antarctica. He also plans to join an organization or two that focuses on inspiring future geoscientists.