

Chemistry and art students team up to recreate WWI history using technology



Senior Art major Carolyn Cantrell holds up the replica she created of a WWI poster from the Sallie Ellis Davis House collection. Photo by Anna Gay Leavitt.

In a unique research project combining forensic chemistry and the art of printmaking, GCSU students collaborated to make reproductions of a 1918 propaganda poster originally used to recruit African American soldiers during World War I. The interdisciplinary project exemplifies the foundational hands-on, liberal arts education provided at Georgia College.

The WWI era recruitment poster, “Colored man is no slacker,” that the students researched is on display at Georgia College’s Sallie Ellis Davis House. Davis was a prominent educator in Baldwin County’s African American community.

The project gave chemistry students an opportunity to use new X-ray fluorescence technology. The digital spectrometer sends X-ray beams to the core electrons of the atoms in the poster. When the X-rays hit the sample, the atoms inside the sample start to glow (fluoresce) in a unique way. This glow tells scholars exactly what the sample is made of — whether it’s gold, silver, copper or something else — without damaging it.

“Using novel technology and instrumentation like this will make

my students more competitive when they go out to the job market,” said chemistry associate professor Dr. Peter Rosado-Flores. “The main goal is to educate our undergrads...to have confidence handling instruments like this one that cost almost \$40,000. They get nervous, but I say ‘I’m trusting you to take care of it.’ And they do.”

With a handheld scanning gun, Sophomore Camille Hodek of Peachtree City, Georgia, expected to find toxic materials like lead and phosphorus. She mostly discovered safer metals like iron, aluminum, calcium and magnesium in the early 20th century paint.

Hodek has a concentration in forensic chemistry. Her dream job is to work for the Georgia Bureau of Investigation.

“I’ve really loved being able to do research so early in my undergraduate years,” she said. “I don’t believe I would get the same experience any other school in Georgia. I’m very grateful for this program.”

Hodek’s shared her findings with senior art major Carolyn Cantrell of Loganville, Georgia, who used the chemical makeup to mix safe

Scan the QR code below to see interviews with the Chemistry and Art students and faculty who researched the WWI-era poster using X-Ray fluorescence, then recreated it using modern printmaking techniques.



pigments and screen-print replicas of the historic poster. Cantrell is taking a printmaking class taught by Matt Forrest, associate professor of art and interim chair of the Department of Art.

“It’s quite interesting to see the techniques and tools chemistry students use. Their research is very computerized and while our part also has a computerized element at the beginning, our process is very physical,” Cantrell said.

“That’s part of why I love printmaking,” she added. “You involve your body in the progress.”

This merging of printmaking and forensics using state-of-the-art technology is the kind of liberal arts alliance that makes Georgia College special.

“It’s a great experience from the student aspect,” Forrest said, “but it’s also inspiring for the faculty. Students from chemistry may not have thought they’d be going to printmaking to see the results of their research. To have a physical object at the end of it, knowing all the history that goes with it, helps our understanding of what art is and what chemistry can be.” **GC**

Bobcat CALENDAR

Visit frontpage.gcsu.edu/calendar

Wednesday

April 23

Times Talk

“What’s the best thing I can do for the planet?” An Earth Day 2025 conversation with Dr. Steve Elliot-Gower
Russell Library Room 241
12 - 12:50 p.m.

Thursday

April 24

Sound Sculptures XX: Fears & Aspirations

This concert features newly composed, electronic compositions by Georgia College students.

Max Noah Recital Hall
7:30 p.m. \$5 suggested

Friday

April 25

Earthfest 2025

Join the Environmental Science Club for music, activities, games and more!

Front Campus
10 a.m. to 3 p.m.

Bobcats Baseball
Kurtz Field at 6 p.m.
vs. Univ. North Georgia

Saturday

April 26

Annual Art & JazzFest
Front Campus - FREE
2 to 8:30 p.m.

Bobcats Baseball
Kurtz Field at 3 p.m.
vs. Univ. North Georgia

Luminous Spring Dance Concert
Russell Auditorium
7:30 p.m., \$5-\$15

Sunday

April 27

Bobcats Baseball
Kurtz Field at 1 p.m.
vs. Univ. North Georgia

Luminous Spring Dance Concert
Russell Auditorium
2 p.m., Tickets \$5-\$15

Rural Youth in Business



June 1-7,
2025



Center for Innovation & Entrepreneurship

Attention rising 10th, 11th and 12th graders! Do you have a great idea for a business? Join us for a one-week course on starting your own business, taught by faculty from the GCSU College of Business & Technology.

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Questions and Applications

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