



## Hats off to a successful 2023 Homecoming at GCSU



Georgia College & State University's homecoming parade and game were amazing. In case you missed it, here are some scenes that capture the fun. This year's King and Queen were Sam Howard of Alpha Tau Omega and Lauren Moskowitz of Kappa Delta. The Duke and Dutchess were Will Thomas of Alpha Tau Omega and Nicole Rubin of Kappa Delta. Delta Zeta Sorority won best float in the homecoming parade.



## New physics concentration prepares students for careers in radiation therapy

Starting this fall, a new concentration in medical physics will prepare students to get a master's degree for careers in radiation therapy. It's the second opportunity for students in recent years—following a new physics education pathway in 2021 to stem the shortage of physics teachers nationwide.

Other initiatives in the works are a dual-enrollment partnership with Auburn University in engineering and opening talks with Georgia Tech to offer dual-enrollment for medical physics students.

"This is going to be really unique, and it will drive up enrollment," said Dr. Sayo Fakayode, chair of chemistry, physics and astronomy. "We want to provide many pathways for the student. We want physics to be a vibrant and vigorous program to meet the need of students and society."

The need for medical physicists is thought to be 150 to 200 new clinical practitioners per year, according to estimates at Wayne State University



in Michigan. This is due to diseases like cancer. In recent years, early detection and prevention methods like chemotherapy decreased the risk of cancer deaths by 32%. However, cancers involving the breast and prostate are rising, according to a study published by the American Cancer Society (ACS) Journals.

After getting a master's and working in a resi-

dency training program, students must pass an exam to become certified as medical physicists.

Few universities nationwide have an undergraduate medical physics pathway. They're normally found at schools that also offer a graduate degree in the subject. Georgia Tech is the only master's in the state preceded by undergraduate courses in nuclear physics.

Georgia College has offered a nuclear physics course for years, along with strong anatomy and physiology courses needed to get into graduate school for medical physics. But students weren't aware of the job opportunities associated with nuclear physics.

The new concentration offers them a clear career path to get jobs after college, attend graduate school or get a Ph.D. in medical physics.

"This will be the first in-depth exposure of that topic for them," said physics professor Dr. Donovan Domingue. "We want to give students every bit of advantage we can."

### Did you know?

The Energy and the Environment Blog is now an intercollegiate collaboration between the MPA program at Georgia College & State University and the Graduate School of Public and International Affairs (GSPIA) at the University of Pittsburgh.

The partnership extends the collaboration between Dr. Max Harleman (GSPIA Ph.D., MPA alumnus and Assistant Professor at Georgia College) and Dr. Jeremy Weber (Associate Professor at GSPIA) who founded the blog.

The Blog provides commentary and analysis that promotes understanding of energy and environmental issues of public interest.

The blog gives authors space to make an argument, explore data and explain current events in-depth. The first post from Georgia College is coauthored by Mary Spears, a recent graduate of the Georgia College MPA program, and Max Harleman.

To see the blog, follow this link: [www.medium.com/@GSPIAe\\_eBlog](http://www.medium.com/@GSPIAe_eBlog)

## GCSU gets Nuclear Magnetic Resonance machine to train future scientists

The Georgia College & State University Department of Chemistry, Physics and Astronomy purchased a sophisticated high-field 400 megahertz (MHz) Nuclear Magnetic Resonance (NMR) Spectrum Meter in its efforts to give students the best possible training.

Housed in the new Integrated Science Complex (ISC), the new NMR Spectrum Meter cost \$300,000 and will require \$16,000 a year to maintain.

"This is top of the line. That's a Cadillac. It's like going riding a bicycle to driving a Mercedes-Benz," said Dr. Sayo Fakayode, chair of chemistry, physics and astronomy, with an ear-to-ear grin. Showing off the NMR to visitors, he looks like a kid in a candy store.

"That is the instrument that can tell you exactly the chemical structures of organic compounds," he said. "The way you use an MRI to diagnose disease—we use this instrument to diagnose chemicals to know their structure."

Faculty and students can use the NMR in almost any scientific method from organic synthesis, biochemistry, bio-organic and material science to forensics, environmental science and analytical chemistry.

The NMR has a large magnet encased in a Dewar or vacuum container that holds liquid helium which, in turn, is encased in another Dewar holding liquid nitrogen. A solution of chemicals is prepared in a cylinder NMR test tube and placed in a carousel wheel that holds up to 24 samples.

The wheel is then placed in the NMR, moving through liquid nitrogen. Readings appear on a nearby computer screen like peaks on a graph, showing structural molecules to minute detail.

Samples used to be transported to another university for examination. Georgia College's old equipment was limited and could only read at 60 MHz, the maximum for its magnet. The new NMR reads at 400 MHz with a clear resolution.

"We'll continue to get students what they need to be prepared to be a doctor, a pharmacist—whatever they want to be," Fakayode said.

"I know how to drive a program," he added. "The best way to drive a program is to expose your students to the best, because they desire the best."



Drs. Sayo Fakayode (right) and Ronald Okoth with the new NMR machine.

## What's going on in Bobcat Territory?

Visit [frontpage.gcsu.edu/events](http://frontpage.gcsu.edu/events)

Tuesday

28

7-9 p.m. GC Jazz Jam at Amici Café.

Wednesday

1

5-9 p.m. GCSU Baseball vs. W. Georgia at John Kurtz Field.

2

6-8 p.m. Digital Humanities film: "Keepers of the Flame Fan the Flames of Change: A Digital Oral History Project on Georgia Women in Barbecue" in A&S Auditorium.

Thursday

3

5-7 p.m. GCSU Softball vs. Columbus State at Peeler Complex.

Friday

4

1-5 p.m. GCSU Softball doubleheader vs. Columbus State at Peeler Complex.

2-5 p.m. GCSU Tennis vs. Converse at Centennial Center courts.

Saturday