



Pesticide On Your Plate: GCSU scientist and students studied food toxins

In his study of chemicals used to kill insects, weeds, rodents and other pests—Dr. Sayo Fakayode has come to call it: Pesticide on Your Plate. The slogan creates a terrifying mental picture, clearly outlining what’s become a worldwide problem.

“We want to see what’s in consumable products, especially food items, that can be problematic for public health. Pesticides are a debilitating challenge for humanity,” said Fakayode, chair of Georgia College & State University’s Department of Chemistry, Physics and Astronomy. He’s been researching this issue for more than two decades, recruiting undergraduate students and working with scholars worldwide to find quicker, cheaper and more accurate ways for detecting and analyzing pesticides in the human body.

His ultimate goal is to pave the way for a medicine that will help. “I’ve said it repeatedly. Chemistry is chemistry anywhere in the world,” Fakayode said. “If you have the right skill set, and you are trained in analytical instrumentation—then what they do at Harvard or Yale or MIT or Georgia Tech—you can do right here on this campus.”

“At Georgia College,” he said, “we are making that little contribution to science.” More than 1,000 different pesticides are used around the globe, according to the World Health Organization (WHO). They’re important for destroying vermin that eat or damage crops. But these toxins also make their way onto people’s plates. Nearly 75% of non-organic produce sold in the United States contains some amount of potentially harmful pesticides, according to the Environmental Working Group and reported by CNBC.

It’s not enough to wash pollutants off before cooking. They’ve already been absorbed into the foods we eat. “Pesticides can leach into underground water,” Fakayode said. “When it rains, they can be washed from topsoil to the river, and it’s the same river water that we will process and drink. Even plants can absorb pesticides. That magnifies toxins from the root to the leaves to the fruit. It concentrates as it goes along.”



Bailey Dassow, Dr. Sayo Fakayode and Brinkley Bolton in the chemistry lab.



These contaminants can cause health problems like birth defects, miscarriages and developmental disabilities in children, according to the Centers for Disease Control and Prevention (CDC).

In addition, three chemicals used in making pesticides are considered “Group 1 carcinogens”—arsenic, ethylene oxide and lindane, according to the Environmental Protection Agency.

Tackling global problems like these is a bit mindboggling for Fakayode’s two research students.

Senior Brinkley Bolton of Bremen, Georgia, and junior Bailey Dassow of Dacula, Georgia, are both majoring in chemistry with minors in criminal justice and concentrations in forensic science.

They were the youngest presenters last semester at a research conference for the American Chemical Society in San Francisco, California. In January, they were also named as co-authors on a study with Fakayode and other university scholars in the Journal of Biomolecular Structure and Dynamics.

Dassow and Bolton helped detect and analyze pesticides. Finding a solution to the problem of pesticides should be a top priority worldwide, the group concluded.

Fakayode expressed pride in his “hardworking” students, who are part of the “creative thinkers and next generation of STEM researchers” produced in his department.

“That our small efforts could lead to medications and help hundreds of thousands of lives, and all we did was spend a few weekends in the lab doing our little part is kind of scary. When you look at the big picture and realize it could help so many people,” Dassow said, “it’s pretty exciting.”

Bolton agreed it’s “kind of crazy.”

“Not gonna lie,” she said. “I didn’t think I could do it until I was actually presenting research in California. Because it’s a small school, I’ve gotten so many more opportunities at Georgia College with research and being mentored by faculty like Dr. Fakay, than I could ever have gotten anywhere else.”

“Being here,” she said, “is worth much more than I ever could’ve imagined.”

Honoring veteran nurse, Colonel Maidana Nunn

She’s a nurse, an educator and a retired United States Air Force Reserves colonel. She’s a philanthropist, patron of music and constant volunteer.

She supports her extended family and is a shepherd to others. She’s strong, passionate and curious.

She’s Colonel Maidana K. Nunn (’57) DNSc. She’s been to almost every country in the world and operates with four main passions: faith, her country, children and animals.

“I was just curious,” Nunn said. “These opportunities were to come about and I’d say, ‘Well let me try and see what I can do.’ I was always busy doing something—I think I’ve had a rich, full life.”

Nunn was born December of 1932 in rural Barnesville, Georgia, and bounced around Middle Georgia with her mother after her father perished in a 1936 auto accident. She grew up all over the state and eventually graduated from Butler High School in 1949.

This is where her nursing career began. Nunn



Maidana Nunn.

graduated from the Macon Hospital School of Nursing in August 1952 and became a registered nurse.

Chasing a job, Nunn ended up in Milledgeville at Central State Hospital. She didn’t intend to stay. But after her uncle convinced her it was “the best school in the state of Georgia,” Nunn

began studying social science at what was then Georgia State College for Women.

Then, Nunn jumped from opportunity to opportunity and furthering her education. She ended up getting her Bachelor of Science in Nursing from the Medical College of Georgia in 1958, a Master of Science from the University of Maryland in 1963 and a Doctor of Nursing Science from Boston University in 1970.

“I just have so much curiosity, so I wanted to learn as much as I could,” Nunn said.

She had a 21-year military career starting at Robins Air Force Base in Warner Robins, where she studied flight nursing, rose to captain, major and then colonel rank.

For the last five years, Nunn has lived at The Cottages in Milledgeville, where she often attends musical productions and continues to volunteer in what capacity she is able.

She’s is the benefactor of the Dr. Maidana Nunn ’57 Scholarship, a \$25,000 endowed fund for GCSU music students, a champion of children and pillar for GCSU’s Department of Music.

Did you know?

A celebration connecting collaborative research with veterans by Georgia College & State University’s Psychology Department and Music Therapy program, will be 7 p.m. Tuesday, Nov. 12, at Blackbird’s Coffee shop in Milledgeville.

The evening is called, “Sights & Sounds of Verteran Identity.”

Using the therapeutical programs Photo Voice and Lyric Analysis, students helped participants identify individual feelings and what it means to be a veteran.

Four veterans and about a dozen students will be at Blackbird’s sharing their stories and research with the community through a photo exhibit and live music.

One vet chose a photo of himself and his daughter, who will play the violin to his chosen song about rebirth and reclaiming joy, “Dragonfly” by Shaman’s Harvest.

Although pictures and music have been used to help vets in the past, this is the first time both have been used together with veterans actively participating as researchers, said senior psychology major Trenholm Fahy.

GCSU hosts upcoming concerts: Operas & Disney

Georgia College & State University Music students will showcase opera scenes and Disney songs in two upcoming concerts, “Desire and Destiny” and “When You Wish Upon A Star.”

At 7:30 p.m. Thursday, Nov. 14, the music department presents “GCSU Opera Scenes Ensemble: Desire & Destiny” in Max Noah Recital Hall.

Fourteen students and a community member will perform six scenes from different operas, including Wolfgang Amadeus Mozart’s “Cosi fan tutte,” Gaetano Donizetti’s “L’elisir d’amore,” Richard Strauss’s “Der Rosenkavalier,” Giuseppe Verdi’s “La traviata” and Gilbert and Sullivan’s “The Pirates of Penzance,” as well as Georges Bizet’s “Carmen.”

A duet, trio, sextet and three ensemble pieces will be featured with scenes presented in Italian,

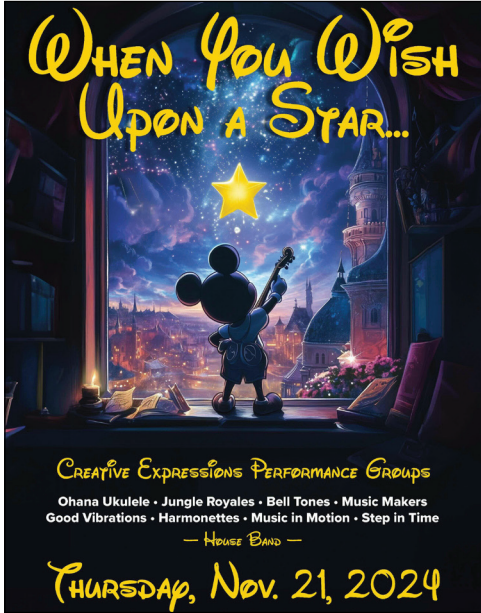
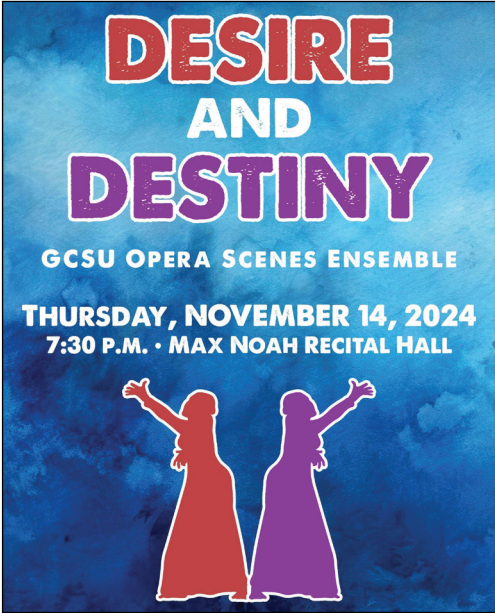
German, French and English. Some scenes will be staged by student directors.

The concert will also be livestreamed at www.facebook.com/GCMusicDepartment.

At 6:30 p.m. Thursday, Nov. 21, this year’s Creative Expressions concert, “When You Wish Upon A Star,” will be staged in New City Church at the Mill in Milledgeville.

GCSU music therapy students and adults with ‘disAbilities’ from the Life Enrichment Center will bring the magic and wonder of Disney’s uplifting animations to your evening.

A \$5 donation is encouraged for both concerts. All proceeds benefit music scholarships or the GCSU Department of Music through GCSU Foundation, Inc.



What’s going on in Bobcat Territory?

Visit frontpage.gcsu.edu/events

Tuesday

12

6-7 p.m. “Sights and Sounds of Veteran Identity,” Blackbird Coffee, Milledgeville.

Wednesday

13

7-9 p.m. GCSU Men’s Basketball vs. Auburn University-Montgomery, Centennial Center.

Thursday

14

6-7 p.m. GCSU Scholar-In-Residence Dr. Farrell O’Gorman will speak on “Cormac McCarthy and Flannery O’Connor: Links, Likeness, Legacy,” Ina Dillard Russell Library.

7:30 p.m. GCSU Opera Scene Ensembles present “Desire and Destiny,” Max Noah Recital Hall.

Friday

15

Saturday

16

9 a.m. “Autumn Dash” 5K and food drive, Oconee River Greenway, Milledgeville.