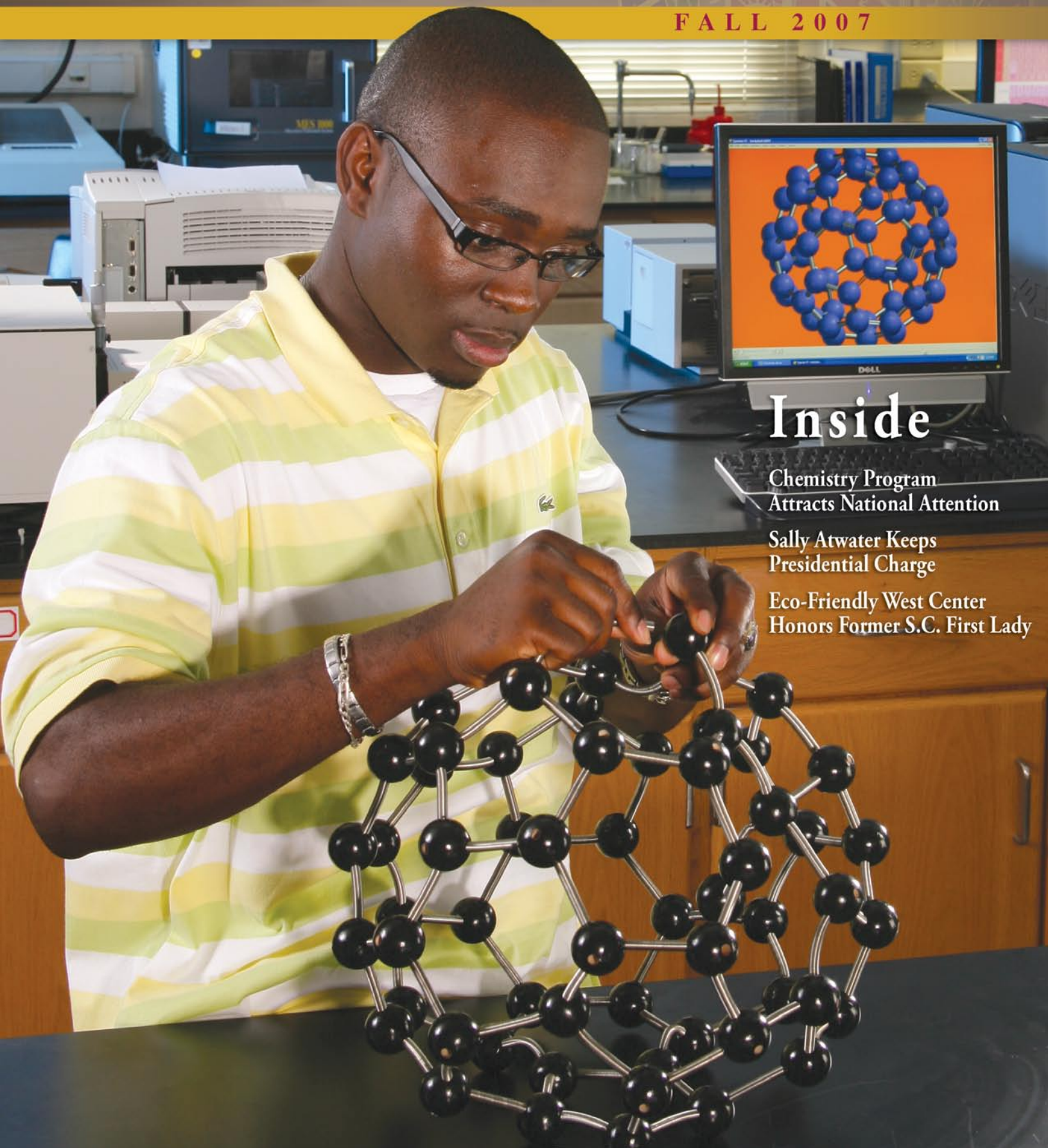


WINTHROP

M A G A Z I N E

FALL 2007



Inside

Chemistry Program
Attracts National Attention

Sally Atwater Keeps
Presidential Charge

Eco-Friendly West Center
Honors Former S.C. First Lady



Dear Winthrop Friends:

An exciting and productive summer has given way to Winthrop's 122nd academic year. The last few months ushered in a season when the university's new freshmen and their families came to campus for Orientation, reminding us all of the enduring purpose that renews itself with each successive academic year.

Now fully engaged in campus life, extracurricular activities, community service and, of course, class work, members of the freshman class have found a Winthrop campus eager to welcome them, constantly improving to serve them, and excited about guiding them through these next pivotal months and years of their lives.

Since their arrival, students have found homes in more than 100 national-caliber academic programs. In this issue of the *Winthrop Magazin*, I encourage you to read about the thriving Department of Chemistry program that emphasizes advanced faculty-student research and rigorous academic course work, all of which have resulted in numerous prestigious national awards for several recent graduates

In the university's efforts to constantly improve "as the progress of the times may require," students have experienced two new state-of-the-art facilities that opened this fall — the Lois Rhame West Health, Physical Education and Wellness Center, built to instill a healthy and sound mind in a healthy and sound body, and the Glenda Pittman and Charles Jerry Owens Hall, a stellar academic building equipped with the kind of smart technology that today's learners require. In this issue, you will meet the West Center's director, Grant Scurry '90, who spent the summer preparing the facility for its much-anticipated opening to students, faculty and staff. The campus community looks forward to dedicating these new campus landmarks this fall.

Within this issue, I also encourage you to read about:

- The accomplishments of Presidential Committee Appointee Sally Dunbar Atwater '73, '75, and Lance, Inc. Vice President Mark Carter '05;
- Career achievements and updates on alumni Alfie McCloud '07, Chad Steele '97, Donna Chapa Crowe '87, '94, Ginger Barfield '77 and Ruth Smith Johnson '45; and
- Your new Alumni Association President, Kasey Johnston Walther '69.

As always, I hope you enjoy this issue of *Winthrop Magazine*. Your continued interest and support of this fine university are much appreciated, and I encourage you to visit campus soon so that you, too, may see all that is happening at Winthrop.

Sincerely,

A handwritten signature in black ink, reading "Anthony J. DiGiorgio". The signature is fluid and cursive, with the first name being the most prominent.

Anthony J. DiGiorgio
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About the Cover

Junior Joshua McClellan is among more than 75 students within Winthrop's Department of Chemistry. Students and recent graduates are reaping the benefits of the research-intensive program with national scholarships and awards.

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Assistant Professor of Chemistry Robin Lammi and senior Kyle Dukes collaborate to re-align the Krypton-Argon laser beam. The laser light is used to excite molecules, one at a time, within the single-molecule spectroscopy apparatus.



Formula for Success

Chemistry Program's Reputation Bolstered by Research, Awards

By Jill Stuckey

Winthrop had one of the best kept secrets in the region. That's how Pat Owens, chair of the Department of Chemistry, used to describe the national-caliber program and advanced undergraduate research taking place at Winthrop. With students routinely presenting at national conferences and faculty continuing to earn valuable research grants, however, it isn't a secret any longer.

As one of only three schools in the state with American Chemical Society-approved programs in chemistry and biochemistry, employers and graduate schools alike recognize the rigor and strength of the curriculum. According to Owens, approximately 40 percent of each graduating class enters directly into fully funded Ph.D. programs, while 30 percent proceed to medical, dental or pharmacy school, and the remaining 30 percent find jobs in industry.

The combination of the chemistry and biochemistry ACS-approved programs has proved invaluable for the department. No matter the field students choose to pursue, they often need a strong foundation in biochemistry. Plus, "A lot of funding for research in this country comes from medical need," Owens said. "It's really the direction the field is going."

With these programmatic improvements, the department has tripled in size since the early 1990s, and its students are regularly receiving recognition by regional and national organizations.

Putting Knowledge into Action

Owens says the best way to learn science is to practice science. That philosophy, a driving force in the department in recent years, has placed undergraduate research at the cornerstone of the program.

"Undergraduate research is the ultimate educational capstone experience," Owens said. "Students design their own experiments, reasoning their way through the process to determine next steps. Then they write up, present and defend their results similar to the way doctoral candidates defend a thesis in graduate school."

Student researchers at Winthrop work alongside a faculty mentor and together they collaborate on designing experiments. The mentor provides guidance, but the student retains plenty of latitude, observing results and continuously refining the experiments.

"Through research, students truly become practicing scientists, contributing to the creation and dissemination of new knowledge. Building upon the knowledge gleaned from lecture and laboratory course work, students develop detailed understanding of specific research areas, the scientific questions under investigation and the skills and techniques required to pursue them," Robin Lammi, assistant professor of chemistry, said. "Research is likely the most challenging learning experience that students will encounter at Winthrop, and one of their most exciting and rewarding endeavors."

Students and recent graduates are reaping the benefits of the research-intensive program. In fact, 12 Winthrop students seized opportunities to attend and present their findings at national or international science conferences

during the past year. One of those students, Sarah Wengryniuk '07, spent two years at Winthrop working on an organic synthesis project, providing pharmaceutical researchers novel and more efficient reactions to transform small, simple molecules into more complex, useful compounds. She presented her findings at the national ACS meeting last fall in San Francisco, Calif. Just before May Commencement, Wengryniuk learned that she had been named one of only five international recipients of The Merck Index's "Women in Chemistry" scholarship.

Senior Zainab Ghadiyali used her research experience to earn a German Academic Exchange Service scholarship, enabling her to spend the next academic year working at the Charité, Europe's largest university hospital.

Ghadiyali designed the research she will conduct, which involves testing the effect alternative medicine techniques, such as art, music or yoga, have on the minds of German patients afflicted with post-traumatic stress syndrome.

Before leaving for Germany this fall, Ghadiyali completed a summer internship as an application scientist with Rohm and Haas in Philadelphia, Pa. The company specifically recruited her for the internship after seeing her presentation at a national conference. Winthrop faculty members encouraged her to attend this spring.

Her summer experience impressed upon her the assets that make the Winthrop program unique. "After talking with other interns, I've realized we get to work with instruments at Winthrop that undergraduates at other schools don't get to touch," Ghadiyali said. "I was much better prepared, having used this equipment before."

Equipment used by students and faculty in undergraduate research includes such instrumentation as an electrospray mass spectrometer, an ion chromatograph and a 12-station computer lab for Silicon Graphics molecular modeling. In August, the National Science Foundation awarded Winthrop faculty a grant for more than \$282,000 that will allow them to add a new piece of equipment this year, a matrix-assisted laser desorption ionization (MALDI) time-of-flight (TOF) mass spectrometer. All of this can be found in the Sims Science Building, which once again became home to the chemistry program in 2002 after a \$7.5 million renovation.

For more information on the chemistry program and its successes, contact Pat Owens at 803/323-4925.



Jon Antonucci applies his extensive chemistry background and knowledge at BASF to produce coatings and adhesives used in countless consumer and construction products.

Developing Solutions to Complex Problems

Jon Antonucci '95 solves problems for a living. From the concrete modifier used to build America's longest cable-stayed bridge, the new Arthur Ravenel Jr. Bridge in Charleston, S.C., to the adhesive that holds your carpet in place, Antonucci and the team at BASF produce coatings and adhesives used in countless consumer and construction products.

Antonucci has worked as a research scientist at the Charlotte, N.C., branch of BASF Corporation, the world's largest chemical company, for the past 11 years. Manipulating polymers to meet customers' needs for new product functionalities provides regular challenges for Antonucci and the team.

"Your first idea of how to solve a complex problem almost never works perfectly," Antonucci said. "There is always a learning process and the real challenge is not to let the solution you want to be true overshadow reality."

Trying to create solutions on a daily basis can be tough, but seeing the end results produced from technical achievements brings satisfaction. For instance, "Something like painter's masking tape has four of our products in it — the adhesive, the blue dye, the saturant that gives the paper strength and the release liner that keeps the adhesive from sticking to the back of the tape." Knowing that he had a hand in the development of a product used by millions makes Antonucci's job very rewarding.

Half of Antonucci's time is spent in new product development. The other 50 percent is spent on process optimization, working to improve plant efficiency and maintain safe reactor operations.

Antonucci began developing an expertise in analytical instrumentation while he was a student. After transferring to Winthrop from a much larger school, he found a home in the smaller program, working with faculty on research and tailoring the program to fit his needs.

"I was encouraged to explore my interests in both chemistry and computer science," Antonucci said. "Being able to tie those two disciplines together has really helped me succeed in my career."

Following in the Footsteps of Faculty

Kelley Dwyer Grorud '99 discovered her passion for mentoring student researchers while she was still a student. Helping instruct some of the organic chemistry labs as an upperclassman at Winthrop, Grorud found herself learning along with her students.

"I loved helping the other students sort out problems," Grorud said. "It made me realize that I wanted to teach someday at a school similar to Winthrop where teaching is a priority."

After receiving her Ph.D. in biomedical engineering in 2004, Grorud began as an assistant professor at Edgewood College in Madison, Wis. In her position, she has the opportunity to shape the lives of the students in her classes in much the same way her Winthrop professors helped mold her.

"The Winthrop faculty really know their students well, and not just academically," Grorud said. "I work hard to try to be that faculty member to my students."

While Grorud hopes to inspire and encourage her students, she finds that her students' enthusiasm motivates and invigorates her.

"I like meeting students who have a real passion for solving a problem and then guiding them through trying to solve that problem," Grorud said. "They ask questions that I don't know the answer to sometimes, but that's okay because it is all about discovery."

In addition to teaching and advising, Grorud keeps active with her research in the biomechanics of joints. She has a U.S. patent application under review for a pharmaceutical she and her research advisor developed while she was in the Ph.D. program. The drug speeds up the healing process and strengthens knee ligaments after an injury.

But research is more to Grorud than just the end results. It also fuels her teaching. "Research keeps me fresh," Grorud said. "My Winthrop professors showed me how research improves your teaching."

Kelley Grorud (right) learned more than just chemistry at Winthrop. Through interaction with the department's exceptional faculty, she discovered her desire to teach.



Chemistry Majors Who Entered Ph.D. Programs Upon Graduation

Kelley Dwyer Grorud '99	University of Wisconsin - Madison Biomedical Engineering
Jennifer Perry '99	Duke University Biophysical Chemistry
April Atkinson '00	University of Pittsburgh Neuroscience
Rebecca Coppins '00	University of Illinois - Urbana Bioorganic Chemistry
Lisa Miller '00	University of Georgia Biochemistry
Warren Dukes '01	University of Pittsburgh Computational Chemistry
Terry McAlister '01	Clemson University Inorganic Chemistry
Hilary Siders '01	UNC-Chapel Hill Analytical Chemistry
Daniel Zweiffel '01	Clemson University Materials Chemistry
Angelique Blackburne '02	Pennsylvania State University Materials Inorganic Chemistry
Derek Elgin '02	University of South Carolina Organic Chemistry
J.R. Johnson '02	University of Notre Dame Bioorganic Chemistry
Charlotta Wennefors '02	Duke University Inorganic Chemistry
Elizabeth Dimond '04	Clemson University Genetics
Jennifer O'Neal '04	University of South Carolina Organic Chemistry
Anna Vagstad '04	Johns Hopkins University Biochemistry
Karl Baker '06	University of Iowa Chemical Engineering
Brandon Bozard '06	University of South Carolina Analytical Chemistry
Rachel Glazener '07	University of Tennessee Bioorganic Chemistry
Summer Hanna '07	Wake Forest University Analytical Chemistry
Carolyn Quarles '07	Clemson University Analytical Chemistry
Samantha Reynolds '07	Dartmouth University Organic Chemistry
Nate Slade '07	Purdue University Materials Chemistry
Sarah Wengryniuk '07	Duke University Organic Chemistry