Recruiting and Training the Best Graduate Students in the Tradition of Two Beloved Professors

Teague Fellowships Boost Recruiting

Article by Beth Diehls and Susan Stone

"Beyond Peyton's wonderful sense of humor, warmth, and directness, I will always remember how students responded to his lecture style," recalls Dr. Tom Bryson, graduate studies director. "He had a way of saying things that made students believe him; they felt certain that his way was the way the world is. This believability, this confidence, made students successful."

Even after his death in February, Dr. Peyton Teague continues to "make students successful" through the Peyton Clark Teague Graduate Fellowships, which have been awarded by the department for over a decade.

Each year, the fellowships, which range in value from $1,500 to $3,000, are awarded to the most promising entering graduate students to supplement their first-year assistantship stipends.

The department hopes to pay tribute to Teague and all that he stood for by increasing the fellowship fund through donations.

Please see Teague on page 5

You Can Help!

We need your help to recruit the best graduate and undergraduate students. Please mention USC to students who are considering degrees in chemistry or biochemistry. And please support funds like the Teague and Copenhagen.

See the "Letter from the Chair" on page six and the enclosed envelope for more information. Thank you!

The 1998-99 Copenhagen Scholars recently had the opportunity to meet with Max Gergel, founder of the Copenhagen Memorial Scholars program. Standing behind Gergel are Scholars Kathy Korns, Katharine Stitzer, Laurie O'Daniel, Burjor Captain, John Berch, Primrose Musingarimi, and Robert Umpleby.

Copenhagen Scholars Get a "Running Start"

When Max Gergel made mercaptans for the first time as a sophomore chemistry major at USC in 1940, the whole department found out about it. Gergel was following the instructions of visiting Johns Hopkins professor Dr. E. Emmet Reid, who had also told him not to tell his mentor, Dr. James "Copie" Copenhagen, about the experiment.

"I mixed n-butyl bromide with thiourea in water, boiled to a clear solution, and then added sodium hydroxide," Gergel recalls. "This addition produced a top layer of a horrible smelling compound, my first experience with a mercaptan. The entire LeConte Science Building was evacuated."

"Dr. Lipscomb hollered, 'It's a skunk' and Copie, keeping up with the pack, said, 'It's only Gergel.' Copie was a fast runner and quick to forgive."

Gergel and many others remember "Copie" as a wise, kind man who devoted his life to education and offered opportuni-
Department Goes “Green”

Environmental Chemist Joins Faculty

Article by Beth Diehls

Dr. John Ferry, the newest addition to USC’s chemistry faculty, recalls vividly when he first became interested in environmental chemistry. “When I was 8 or 9,” he says, “I read about a creek catching fire in an industrial park. The idea of firemen spraying water in a creek didn’t make sense to me at all.”

Ferry grew up in Dupo, Ill., a town of about 2,500 residents just south of St. Louis. While completing his bachelor’s degree in chemistry at the University of Illinois, he met his wife, Kathy, who is currently a chemical engineer at Radian LLC. Ferry earned his Ph.D. in 1996 from UNC, and then did postdoctoral work in Austin, Texas, where son Abel was born.

Abel will be 2 in October, and John and Kathy try to take him to a new park, zoo, or botanical garden every week. Ferry also proudly displays in his new office a picture of Abel happily seated in a meadow of Texas bluebonnets.

Now that he has settled into his office at USC, Ferry can resume his research in two main areas. First, he is interested in chemical reactions in a supercritical water environment. He explains that when water is heated and compressed to a temperature of 372 degrees Celsius or higher, “it no longer behaves like the water we are familiar with at room temperature.”

Gestureing to diagrams on his office chalkboard, he explains that water at this temperature can dissolve non-polar chemicals and hydrolyze or oxidize hazardous materials.

Ferry’s second area of concern is the chemical fate of pharmaceutical waste (leftovers of human and animal medical treatments) in the environment. Studies in Germany have revealed low levels of clofibric acid (an anti-cholesterol drug) in surface water. Estrogens, other hormones, and antibiotics may also pass through wastewater treatment plants and into our water supply.

For Ferry, lab work is always a marriage of research and teaching, and he looks forward to helping his graduate students use research to learn lab techniques, presentation methods, and critical thinking skills. He also intends to incorporate current research into his classroom teaching.

“There’s really no difference between research and teaching in the sciences,” he asserts. “The two are inseparable. Even in introductory courses, we should be able to show how current research results can be traced to the fundamental principles we are teaching.”

In fact, Ferry says one reason he remained in academia is that he enjoys watching students’ perspectives grow as they are educated. “It’s every bit as fascinating as the science itself,” he says.

Graduate Student Wins American Chemical Society “Green” Award

“The Green” chemistry is a growing field, and USC’s chemistry and biochemistry department is emerging as one of its major players.

Announcing the winner of the first-ever Kenneth Hancock Memorial Scholarship in Green Chemistry at ceremonies in Washington last June, Paul Anderson, American Chemical Society (ACS) immediate past-president said, “The award-winning advances that we recognize tonight are a clear sign that green chemistry has arrived and is here to stay.” The Hancock winner he recognized was our own Jeanne Jennings, a third-year Ph.D. student working with Dr. Tom Bryson.

Jennings is studying ways to conduct organic reactions using supercritical water, rather than environmentally harmful chemicals, as a solvent and reagent. After finishing her degree, Jennings intends to work in industry, where her research can be applied to reduce expenses and environmental damage. “I want to change some set ways,” she says.

As news of the award spreads, Bryson and Jennings have begun receiving e-mail from research groups overseas. “It looks like we might do some collaborative research with a group in England,” Bryson says.

Collaborative research possibilities also abound within the department, especially with the arrival of Dr. John Ferry (see article above). This year, Jennings hopes to collaborate with Ferry to set up a continuous flow system for supercritical water reactions. “If we can get it to work efficiently,” she says, “we’ll turn some heads.”
Standing on a dusty floor strewn with bits of pipe and chunks of mortar, Dr. Hanno zur Loye surveys the space designated as his lab on the fifth floor of the Graduate Science Research Center (GSRC). He takes in the rough, unfinished, exterior walls, the steel beams, the exposed pipes, the holes for electrical outlets.

He beams. “Walking through this building,” he says, “you get a really good feeling that this will be great.”

Dr. zur Loye’s feeling is shared by others who have had the opportunity to tour the GSRC during the few times that construction scheduling allows for safe visits. Guided by Dr. Scott Goode, chair of the department’s GSRC Liaison Committee, small groups of faculty and staff eagerly examine the building from the ground floor to the rooftop.

On the day zur Loye saw his lab, the tour group also included Sherry Morrison, business associate, and Sheri Howell-Redmond, stockroom manager.

The tour begins in the new building’s main entry foyer, which faces the Towers (or Honeycombs) residence halls. Holding their hard hats firmly in place, members of the small group stand in the foyer, craning their necks to admire the height of the two-story structure.

As Goode describes the plans, they can visualize the finished effect: a columned, curved entry with steps leading from a courtyard, a garnet railing for the second-floor balcony overlooking the foyer, a covering of pinkish, black-and-silver-flecked stone for the walls, double doors leading to a large conference room on the left, and the main departmental office on the right.

Morrison quickly darts into the departmental office, where she will work. The wide, almost floor-to-ceiling window openings are a striking contrast to the slit-like windows of PSC, and the private offices for the professional staff and administrative assistants seem long overdue.

Even the work-study students, who help the department with clerical tasks, will have their own enclosed office space.

And, for the first time in years, the graduate office will be housed in the same suite as the main office, making information sharing much easier.

Continuing down the hall, Howell-Redmond locates the stockroom, with its separate rooms for storage of chemicals, acids, solvents, and gas cylinders. Each room will feature a thermostat and a locking door to secure the chemicals. The facility also includes plenty of space for shelves and cabinets in a central room.

“It’s much larger than I imagined,” Howell-Redmond says. “I’m looking forward to moving in and getting organized. We won’t have to use the floor for storage anymore.”

A large freight elevator adds to the convenience of the new building. Whereas the stockroom staff must remove ceiling tiles from the elevator in the current building in order to fit tall items into it, the new elevator is large enough to prevent that hassle, Howell-Redmond says.

Just yards from the elevator is the loading dock, which features an automatically closing garage door to keep the area secure while materials are being unloaded and delivered.

The department’s faculty and staff contributed to the design of the building, and their foresight and the skill of the architect shows. As the tour progresses, the group marvels at details such as the separate foundation slab for the Nuclear Magnetic Resonance lab (to isolate the instruments from residual building vibration), the covered bicycle storage room (to keep bikes out of sight and out of the weather), and floor drains in the labs (to contain any spills).

The 27,800-pound air handling units on each floor also impress the group. The units will pump in fresh air that will be used only once and exhausted through fume hoods. Each unit fills most of the space in its 36-by-48 foot room.

“The construction cranes have a limit of 28,000 pounds,” Goode says. “The crane got stuck when it tried to lift one of the air handlers into position.”

Fleetingly sympathizing with the crane, the tour group braces the heat of this August afternoon to tramp up dusty stairs to the research lab space on the upper four floors. Each floor includes eight labs on the north and south sides and office space for eight faculty on the east and west ends. Large windows brighten the rooms, and the window walls in the labs have already been reserved for graduate students’ desks.

As the tour group explores the upper floors, some linger in the spaces that will become their offices and labs, mentally arranging equipment and furniture, pacing off the length of walls, evaluating the view, peering from the doors to check the distance to the future location of a colleague’s office.

In the core of the building, each floor includes rooms for specialized equipment that is too big to be stored in the main labs. Some core rooms will also house departmental equipment that is shared by many researchers on the
Bacteria Detection Without Culturing?

Need to find out if bacteria are present in a sample? If Drs. Steve Morgan, Scott Goode, and Mike Angel’s newest research project is successful, you may be able to put away that agar culture media and crystal violet stain.

Funded by the Department of Defense, the three analytical chemists will be developing new techniques for detecting and identifying bacteria through direct chemical analysis. Whereas most current detection methods require millions or billions of cells, Morgan, Goode, and Angel hope their technique will be able to detect small concentrations of bacteria, perhaps even single cells. And whereas microbiologists have typically identified bacteria by microscopic examination of cell shape and size, the methods under development will enable direct analysis of the chemical structure of cells.

The researchers are designing laser equipment that will enable them to pyrolyze samples into fragments of organic polymers. “Essentially, we’re blasting bacteria into little pieces and then looking for chemical signatures that identify the structure as bacteria, or even as a particular species of bacteria,” Morgan explains.

“The trick is going to be developing methods that will allow us to decompose the bacteria without destroying them completely,” Goode adds. If you imagine the technique as breaking a sample into pieces like a jigsaw puzzle, Goode says, “we want to create a puzzle that might be labeled ‘suitable for ages 3 to 5,’ not the one that’s sold as ‘the hardest puzzle in the world, 2,000 pieces, all black.’”

To achieve the solvable puzzle, the researchers will de-tune instruments that were originally designed to vaporize samples into atoms. Rather than directing a powerful laser beam on the sample, the instrument will focus a gentler beam with just enough heat to break the sample into recognizable fragments.

“Getting the instrument to work the way we want it to work is going to involve a lot of basic research and instrument optimizations,” Morgan says. “We may even have to commission new parts for the machine. Interfacing the laser ablation apparatus to a time-of-flight mass spectrometer and getting everything synchronized is not trivial.”

Although the completed research instrument will be the size of two or three desks and will weigh several thousand pounds, potential exists for miniaturization.

Initially, Morgan, Goode, and Angel will use the instrument to study detection and identification of pathogenic bacteria that might be used in bacteriologic warfare. As pathogens, these bacteria have chemical similarities that should enable the researchers to develop fast screening methods for determining whether a sample contains them or not.

Eventually, the researchers hope their method will enable soldiers to test air and surface samples in the field. The technique may also have non-military applications. For example, pharmaceutical labs might be able to use it to monitor and identify bacterial contamination that develops during drug preparation.

But those applications are a long way off, the researchers caution. “We’re trying to do something that hasn’t been done before and that’s a high-risk proposition,” Goode says.

For now, the USC researchers are simply enjoying the opportunity to collaborate on basic research. “We’ve begun by identifying questions like ‘How many bacteria are the minimum that can be detected’ and ‘How should we adjust the laser to get recognizable fragments,’” Morgan says. “Our first task is to prove that our technique is a viable one.”

Hoechst Celanese Endows Fellowship

In August 1998, the Hoechst Celanese Foundation created a fellowship for USC chemistry and biochemistry graduate students. A $50,000 endowment fund will be established in the USC Educational Foundation over the next two years through two gifts of $25,000. Proceeds from this fund will be used to attract and retain outstanding graduate students.

The department thanks Hoechst Celanese and other faithful donors whose contributions, large and small, help us continue to advance our research and educational missions.
Teague was instrumental in bringing graduate students to USC’s chemistry and biochemistry department, first as associate dean of The Graduate School from 1966 to 1968. Shortly afterward, he became director of graduate admissions for the department and served in this capacity until his retirement in 1982. Even after retirement, Teague assisted the graduate admissions committee until his death, coming in three or four days a week to recruit students, organize their application and admission materials, and help them adjust to new lives in Columbia.

Department chair Dr. Bruce Dunlap recalls that when the graduate office decided to begin offering departmental fellowships, Teague’s was quickly determined the perfect name to be associated with them.

"Not only had he been with the department for such a great length of time," Dunlap explains, "but his intensity of effort in recruiting new graduate students was great as well."

Dr. John Dawson, chair of the graduate admissions committee from 1983 to 1998, also calls Teague’s recruiting contributions substantial. "He was incredibly dedicated to his work in graduate admissions," Dawson says. "After his death, we in the graduate office realized how much was getting accomplished without our realizing it."

Furthermore, Teague was an excellent researcher and teacher. He was awarded the first research grant won by a faculty member in the department, and he won the Amoco Outstanding Teaching Award in 1976.

It is fitting, then, that the fellowships bearing Teague’s name help attract graduate students to the department. "They’re that little added difference that helps give us an edge," Dunlap says.

Past recipients agree. Michael Faw, who received the fellowship last year, says, "The Teague Fellowship added an extra incentive to come to USC and enabled me to make a long and expensive move from Michigan."

Like Faw, 1996 recipient Susan Glenn credits the fellowship with relief from moving expenses, adding, "but the biggest thing for me was the extra honor that said, ‘we’d really like to have you here.’ I was looking for a place that wanted me, because my husband and I really valued that." Teague himself made an impression on Glenn as well. "Dr. Teague was the person that I talked to about coming to USC," she says. "He helped to coordinate the bureaucracy of moving two people here from the District of Columbia."

Student Adam Rawlett says, "I am honored to have received the Teague Fellowship in 1995. It allowed me to purchase chemical literature and computer software that enhanced my education. Dr. Teague was always willing to help students and it is fitting that he will be remembered through this fellowship."

Recipients who have graduated and moved on from USC also recall Teague’s kindness and the honor of winning the fellowship named for him. "Dr. Teague always had a joke to tell," remembers Karen House, ’93 Ph.D. "Students congregated in the graduate office to chat with him and his assistant Pat."

House adds that without the fellowships she was awarded, including the Teague in 1988, she would not have been able to attend USC. "I supported myself throughout graduate school, and every little bit made a huge difference." House enjoys teaching at Georgia Military College and Valdosta University. She credits USC with providing her with examples of excellent teachers.

R. Todd Reilly, ’94 Ph.D., received the Teague Fellowship in fall 1989 and is currently doing postdoctoral work in tumor immunology at Johns Hopkins. He remembers "how excited Dr. Teague was to hand out the awards each year. It was exciting for me to see the thrill that presenting the fellowships gave him.”

Seven incoming graduate students have received 1998-99 Teague Fellowships. If you would like to make a tax-deductible donation to the fellowship fund in memory of Dr. Teague, please make your check payable to the USC Educational Foundation and return it with the enclosed form in the envelope provided. Drs. Tom Bryson and John Dawson, who each worked over 20 years with Teague, are the co-chairs of the fellowship fund.

In Memoriam

Dr. Yoshinori Ishikawa died June 28, 1998 at home in his sleep after a yearlong battle with lung cancer. Born in Japan in 1928, he emigrated to the United States with his wife in 1966. From 1976 until his death, he served as a research associate professor in Dr. Roy Wuthier’s biomineralization laboratory and actively contributed to the research program.

Surviving are his wife Toyoko, a son Tomonori of Evanston, Ill., and brothers Tsuneo, Tatsuo, Kunio, Ikko and a sister Fumi, all residents of Japan.

The family asks that those wishing to make contributions in memory of "Yoshi" do so through the department’s Ronald Fisher Lecture Fund.
Faculty, Students Recognized

Dr. Richard Adams, 1999 American Chemical Society Award for Inorganic Chemistry

Dr. John Baynes, School of Medicine Interdisciplinary Basic and Clinical Science Research Award

Dr. Bruce Dunlap, South Carolina American Chemical Society Outstanding Chemist Award

Dr. Benjamin Gimarc, 30 years of state service

Dr. Scott Goode, Michael J. Mungo Award for Excellence in Undergraduate Teaching and College of Science and Mathematics Undergraduate Student Advisor of the Year Award

Dr. George Handy, Athletic Department Gamecock Faculty All-Star

Dr. Malathi Kistler, 20 years of state service

Dr. Lukasz Lebioda, Educational Foundation Award for Research in Science, Mathematics, and Engineering

Dr. Suzanne Thorpe, 20 years of state service

Patrick Ferguson, STAR (Science to Achieve Results) Graduate Fellowship ($102,000)

Allison Marie Hays, American Chemical Society Undergraduate Analytical Chemistry Award

Jeanne Jennings. Kenneth G. Hancock Memorial Fellowship in Green Chemistry presented by the American Chemical Society’s Division of Environmental Chemistry

Shalawn Kirkland, NSF EPSCoR Graduate Education for Minorities Fellowship

Edward McKenzie, South Carolina American Chemical Society Outstanding Undergraduate Chemistry Major Award

Angela Williams, American Association for Cancer Research Minority Scholar Award in Cancer Research

Letter from the Chair

In this newsletter, you will see mounting evidence that we are continuing to build a strong, nationally competitive program in chemistry and biochemistry. We welcome Dr. John Ferry as our 25th tenure-track faculty member and the fifth new faculty member in the last three years. We celebrate graduate student Jeanne Jennings’ American Chemical Society award for “green” chemistry research. We applaud the 18 graduate students who won Durig Travel Awards in the 1997–98 year to facilitate presentation of research papers at major meetings. We eagerly anticipate the spring, when we will begin moving into our new, spacious, state-of-the-art facilities in the Graduate Science Research Center.

You can help us make further advances. This fall, we welcomed 30 outstanding graduate students from 11 states and three foreign countries. Ten of these students, the first Copenhaver Scholars, initiated their graduate research training under the auspices of a fund established by a thoughtful gift from alumnus Max Gergel. Seven students enter the program as Teague Fellows, and one is a Mustashaw Fellow. These opportunities for our students are made possible by donations from friends and alumni, and place us in a position to compete for well-qualified applicants.

Dr. Hanno zur Loye and members of his graduate admissions committee have already planned the recruiting strategy to build the class of graduate students who will enter in August 1999. An important element of that plan involves friends and alumni. Please help us recruit the next group of well-qualified students by informing your network of colleagues and friends about the outstanding opportunities for graduate work at USC. For our newly redesigned graduate studies booklet and application materials, call 800-868-7588 or write uschemgrad@psc.sc.edu.

Bruce Dunlap
Weissman Professor and Chair

GSRC continued from page 3

floor. Each floor will also house a conference room, offices for postdocs, a kitchen, and a copier.

The tour group even ventures onto the roof of the new building, ducking under yard-wide exhaust ducts and feeling the heat of the soft tar rooftop penetrating the soles of their shoes. Standing on this roof high above the campus, it’s easy for the mind to leap ahead to February 1999, when the first faculty and staff members will move into the new building.

“We’re definitely getting our money’s worth,” zur Loye says. “This facility will be so much better than what we have now.”
1920s

Guy White, Jr., '29 MS, is now retired and living in Columbia. He earned his Ph.D. from the University of Pittsburgh in 1932.

1940s

Max Gergel, '42, says there is something health-giving about a lifetime of working with benzene and chlorinated and brominated hydrocarbons! He is still active as a chemist, giving lectures in the United States and abroad and consulting for 14 companies.

John Schofield, '42, retired in 1992 from the practice of medicine and now lives in Florence, S.C. He enjoys studying theology, traveling, raising roses, and photography (including working in the darkroom). He jokes that his hobbies involve more work than doctoring!

John Stevens, '47, is retired from International Paper Company and lives in Birmingham, Ala. He lives near one of his children and two grandchildren. Two other grandchildren live in Los Angeles. He says he spends a significant amount of time with his computer, as is very active in his church, and is a Kiwanis Club secretary.

1950s

William McCall, '52, retired in 1982 from the management staff of Cone Mills Corporation and now lives in Union, S.C.

Robert Marshall, '58, has retired from Allied Signal Fibers Company after 33 years of service. In his work as a research chemist, he earned 48 U.S. patents and over 100 foreign patents. He lives in Chesterfield, Va., with his wife Nancy.

1960s

Bill Green, '63, '67 Ph.D., is a founding partner of Florida’s largest specialty environmental law firm. He is on sabbatical with Drs. George Smoot (Lawrence Berkeley National Laboratory) and Nobel Laureate Charles Townes (UC-Berkeley) during the latter half of 1998. He is studying cosmic background radiation from Big Bang and stellar dust clouds. His children Amber, 25, and Harris, 23, are graduates of Davidson College and Vanderbilt. Bill and his wife Diane just celebrated their 30th wedding anniversary.

1970s

Sean O’Connor, '78 MS, is leaving Utah for Florida. He will be a postdoctoral fellow with Robert Gawley at the University of Miami.

Blake Otwell, former postdoc, is an assistant professor of chemistry at Jacksonville State University in Alabama. He says it’s the kind of job he always wanted—a teaching position.

1980s

Charles Hood, '83, received his M.D. in 1987 from the USC School of Medicine. He completed his residency in diagnostic radiology at Wake Forest University in 1991 and returned to the Midlands and general radiology with Lexington Radiology Associates. He and his wife Anita have two children, Michael, 6, and Ryan, 1. He met Anita during his undergraduate days at USC.

Greg Mullen, '86 Ph.D., is an associate professor of biochemistry at the University of Connecticut Health Center. Greg and his wife, Mary Ann (Harrigan) Mullen, '91 Ph.D., have three sons, ages 6, 4, and 2.

Jim Babin, '88 Ph.D., joined Symyx Technologies as director of business development in January. Symyx is a startup company applying combinatorial chemistry techniques to materials science and catalysis. He lives in Chicago with his wife Patty and their two sons: Alex, 9, and J.T., 10.

Gene Godbold, '89, is working as a postdoctoral fellow in the laboratory of Barbara Mann in the Departments of Medicine and Microbiology at the University of Virginia. He and his wife Kristen ('89 Pharmacy) have a third son, born on St. Patrick’s Day. His name is Cullen Ellerbe and he joins his brothers Tristan, 5, and Perrin, 3.

1990s

Scott Waldron, '90, is president and CEO of Buehner Corporation in Salt Lake City. The company is engaged in concrete precast, high-strength concrete applications, and glass fiber reinforced concrete with polymer additives.

Ailing Wang, '90 Ph.D., and Qingping Chen, '95 Ph.D., live in Simpsonville, S.C. They have two children: Benjamin, 7, and Anna, 2. Both work at Bic in Fountain Inn. Ailing works in research and development.

Gong Chen, '91 Ph.D., works for Baker Petrolite, which manufactures performance chemicals for the oil and gas industry. He and his wife live in Houston, Texas, and he says he misses South Carolina!

Rebecca Starr Smith, '94, recently received her M.D. from the USC School of Medicine. She is working on a residency in family practice at Wake Forest University. She married Alan Smith, an anesthesiology resident, in December 1995.

Send Your News!

We'd like to hear from you! To submit your news on the Web, go to http://www.chem.sc.edu/news/alumni/alumniinfo.html or follow the links from the department's home page. Use the form and envelope tucked into this issue, or if you prefer, send letters or e-mail to:

USC Chemist Alumni News
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in a research lab for $300 per week. They learn the basics of research in a comfortable environment, discovering how members of a laboratory team work together, contributing to a research project, and getting the chance to make their own mistakes. (No evacuations of Jones Physical Science Center are expected, however!)

"I found out that biochemistry is not as easy as it seems in the textbook," Scholar Rose Musingarimi says. "You often have to try several times before it works. This summer, I have learned patience!"

Musingarimi, who worked in Dr. James Sodetz’s lab, was one of 10 Copenhaver Scholars this summer. The scholars not only learned patience and basic research techniques, but also learned how to solve problems in a collaborative setting.

"The other graduate students in my lab group are really helpful," Scholar Katharine Stitzer says. "I have bugged them tons! They don’t say, ‘Go look it up in a book.’ They sit down and say, ‘Let me see how you’re doing it and let’s see if we can make this work.’" Stitzer worked in Dr. Micky Myrick’s lab.

The scholars know that the support systems they developed this summer will be crucial in the fall. "I feel ready to start classes and join a research group now," Musingarimi says. "I know I can lean on the other graduate students when I need help because they have been so supportive this summer.”

The scholars’ research directors can already see the benefits of the summer work.

"The program gives them a good running start," Dr. Trent Spencer says. "When they finish, they are advanced enough to be productive. Some students will choose to remain in the same lab for their graduate work and others will not. Either way, they will be able to start working at a graduate level right away, without a long training period.”

The scholars gain confidence about beginning graduate school. "I think I’m ahead of other incoming students," Rob Umpleby says. "From working in Dr. Shimizu’s lab, I have a sense of what other professors are doing in organic chemistry and I have begun to develop my own research project.”

The Copenhaver Memorial Scholars program helps the department remember "Copie" and recruit outstanding graduate students. If you would like to make a tax-deductible contribution to the Copenhaver Scholars fund, please make your check payable to the USC Educational Foundation and return it with the enclosed form in the envelope provided.

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**Join Us on October 16!**

The department’s multimedia lecture hall, located in Room 210 of the Physical Science Center (PSC), will be dedicated the Joseph W. Bouknight Auditorium on Friday, Oct. 16. That’s during Homecoming weekend, so please join us for some or all of the following events:

- **4 p.m.** "Using Technology to Teach Chemistry," a talk by Dr. Stanley Smith of the University of Illinois, 1998 winner of the American Chemical Society Chemical Education Award, in PSC 002
- **5:15 p.m.** Dedication ceremony in PSC 210
- **5:45 p.m.** Reception in the atrium of the Coker Life Science building

The lecture hall, which is used primarily for undergraduate introductory courses, contains equipment that allows professors to incorporate multimedia presentations into their classes.

Come help us celebrate Dr. Bouknight’s legacy and the department’s advances in undergraduate education! Please call Virginia Rogers at 803-777-5264 to request maps, parking instructions, and more information.

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