

GOODWIN, CU ALUM, IS NEW CHAIR

James G. Goodwin, Jr. (B.S. ChE '67) has been named department chair and professor of chemical engineering. Goodwin, who received his M.S. from the Georgia Institute of Technology and his Ph.D. from the University of Michigan, held the William Kepler Whiteford Professorship in Chemical Engineering at the University of Pittsburgh.



His research involves the study of heterogeneous catalysis, and his research

group has been in the forefront in developing the use of steady-state isotopic transient kinetic analysis for studying surface catalyzed reactions. He is an author of more than 125 refereed publications and has been responsible for more than 230 scientific presentations.

Dr. Goodwin has extensive international experience. He directed the Chinese Studies program and the International Technology Center in the School of Engineering at Pittsburgh and worked with the department of East Asian Languages to establish a Chinese language program for engineering students tailored to their curricula. He also established a summer program in China that incorporated language study and laboratory experience and received two National Security Education Program grants to develop and promote study by U. S. engineering students in Mexico and China. He served in the U. S. Peace Corps (Turkey and Liberia) between his M.S. and Ph.D. degrees.

**There is still time
to be a part of the
Campaign for Clemson.
Details inside!**



HUSSON WINS PRESTIGIOUS PRESIDENTIAL EARLY CAREER AWARD

Dr. Scott M. Husson, assistant professor of chemical engineering, is one of only 20 National Science Foundation (NSF)-supported researchers to receive the 2000 Presidential Early Career Award for Scientists and Engineers. The award is the highest honor bestowed by the U.S. government on outstanding scientists and engineers who are in the early stages of establishing their independent research careers.

Dr. Husson was recognized for his work on molecularly imprinted polymer (MIP) surfaces, a chemical-engineering innovation paving the way for a wide range of applications, including low-cost processing of pharmaceuticals and real-time monitoring of water supplies against biochemical contamination. MIP films work by differentiating among mixtures of molecules and binding a target molecule from the mixture - almost like a molecular sheep dog culling the herd. He also was also cited for his work on K-12 teacher education in the areas of mathematics and science.

NSF selects its nominees from among its most meritorious CAREER (Faculty Early Career Development) awardees. The CAREER award supports exceptionally promising college and university junior faculty who are committed to the integration of research and education. CAREER awards range from \$200,000 to \$500,000 for a period of four to five years. NSF awardees have demonstrated a notable commitment to the integration of research and education. Since the White House established the award in 1996, 100 NSF-supported faculty members have received the honor in such diverse fields as biophysics, mathematical modeling, transportation engineering and microeconomics.

"I am honored to receive this recognition and would like to thank NSF for my nomination," said the 29-year-old Husson. "I look forward to the opportunities and challenges and accept the responsibilities that this brings."



Chem E Graduates 42 -- including A Perfect 4.0

Congratulations to the 41 students who received the Bachelor of Science in Chemical Engineering in the University's 105th commencement ceremonies May 11 and to Katherine E. Harrison who received an M.S. in Chemical Engineering.

Julia E. Dubnansky joined the ranks of the department's academic elite by graduating with a 4.0. According to departmental records, her perfect score is only the eighth earned in the department since the University began awarding degrees in Chemical Engineering. She was among only 21 of the 1,860-member Class of 2001 who earned a 4.0 and received the Faculty Scholarship Award.

In brief remarks at the end of the ceremony, Clemson President James F. Barker spoke of the Clemson experience and sent off the Class of 01 with a command: "Always be men and women of integrity, serve others and always remember your alma mater. Support Clemson by giving of your talent, your treasure and your time. I promise you that you will receive much more than you give in service to Clemson."

Chem E graduates and their families celebrated with faculty, staff and other students at a lunchtime reception in the lobby of Earle Hall.

A NOTE FROM THE CHAIR

As an alumnus (B.S. '67) it is a real pleasure to be back at Clemson. With the exception of two visits in the 1970s lasting only hours, I had not spent any time here for 33 years until taking the position as Chairman of the Department last year.

I am amazed to find that the feel and spirit of the University and the Department have not significantly changed, although the student population has grown in that time from 5,000 to 17,000 and become truly coed. Oh, and yes, the professors in chemical engineering still grade just as hard. The Department now completely occupies Earle Hall; the number of undergraduate students has increased by 50%, the number of graduate students has tripled, and female students comprise 45% of the classes. It has been a real pleasure to meet again some of my former professors in chemical engineering who are now all retired and living in the area (Professors Ally, Beckwith, Barlage, Meenaghan, and Mullins.)

Yet, Clemson has changed. It is much more cosmopolitan and international. There is great interest in making Clemson an even more exceptional university, competitive regionally, nationally and internationally as both a leading undergraduate as well as an outstanding graduate university. This is the direction that President Jim Barker, the Trustees, and Dean (of Engineering and Science) Tom Keinath are all strongly supporting. The Department of Chemical Engineering has a dynamic young faculty dedicated to moving forward. The Center for Advanced Engineering Fibers and Films under the leadership of Professor Dan Edie is only one of 20 supported by the National Science Foundation in the United States and has been a great asset for the Department. The junior faculty are of the caliber of Assistant Professor Scott Husson who received the prestigious NSF PECASE Award last year (see article). Nostalgia is nice, but the chance to work in a dynamic environment and to contribute to the advancement of "our" university is the real reason why I chose to return to Clemson.

Whether you graduated in 1999 or 1949, please stop by when you are on campus or let us hear from you. In addition, your suggestions for enhancing the chemical engineering experience at Clemson are greatly appreciated. I can be reached by e-mail at james.goodwin@ces.clemson.edu or by mail sent to the Department.



James G. Goodwin, Jr.
Class of '67

A handwritten signature in black ink, appearing to read "J. Goodwin".



Assistant Professor Michael Kilbey II has received the 2000 Dow Outstanding New Faculty Award from the American Association for Engineering Education Southeastern Section. One of only eight in the country, the award recognizes the contribution of faculty in the early stages of their careers and is based on excellence in teaching, research and publication, and service to the profession.



Associate Professor Douglas Hirt has received a 2000 Outstanding Teaching Award from the American Association for Engineering Education Southeastern Section. The award recognizes faculty members who have contributed significantly to the quality of engineering or engineering technology education through outstanding classroom performance and is based on a strong publications record, creative approaches to teaching, service to the engineering profession and considerable student endorsement.



Assistant Professor David Bruce has received the National Science Foundation's 2000 Early Career Development (CAREER) award for his work on oxidation catalysts, which are critical to the production of pharmaceuticals, aroma chemicals, food additives, polymer precursors and insecticides. The CAREER award stresses the integration of research and education by providing support for young faculty who exhibit excellence in research, teaching and learning.

OUR MAN IN BOMBAY



Charles Barron, center, and his wife, Mary, right, receive a cordial welcome in Bombay.

Professor Charles Barron of Chemical Engineering spent two weeks as visiting professor at the University Department of Chemical Technology at the University of Bombay, India, where he gave a series of lectures on the mixing effects in chemical reactions. He also gave a public lecture and served as a consultant for Reliance Industries.

Although language was not a problem -- the entire educational program is conducted in English -- Barron did note some cultural differences. "Walking by a construction site one day, I watched an engineer using a laser device while elephants were used to move the building materials. I couldn't help but note the contrast between the old and the new India, as well as the difference between construction techniques there and in the United States."

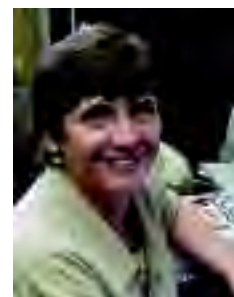
Perhaps the most striking difference was in the classroom, though. "The students actually applaud at the end of a lecture," Barron said. "I've never had that happen here."

Faculty	Research Emphasis
Charles H. Barron, Jr., D.Sc.	Polymer Reaction Engineering
David A. Bruce, Ph.D.	Catalysis, Kinetics, Molecular Sieve Synthesis, and Molecular Modeling
Dan D. Edie, Ph.D.	Composite Materials, High-performance Fibers, Polymer Processing & Rheology
Charles H. Gooding, Ph.D.	Membrane Separation Processes
James G. Goodwin, Ph.D. Department Chair	Heterogeneous Catalysis, Kinetic Analysis of Surface Reactions, Characterization of Catalysts
Graham M. Harrison, Ph.D.	Fluid Mechanics & Non-Newtonian Flow
Douglas E. Hirt, Ph.D.	Polymer Films
Scott M. Husson, Ph.D.	Bioseparations and Separation Materials Synthesis
S. Michael Kilbey, Ph.D.	Polymer Science; Surface Modification via Self-Assembly
Stephen S. Melsheimer, Ph.D.	Automatic Control of Process Systems
Amod A. Ogale, Ph.D.	Experimental & Modeling Issues Related to Fibers, Films & Composites
Richard W. Rice, Ph.D.	Catalysis, Kinetics, & Chemical Reactors
Mark C. Thies, Ph.D.	Thermodynamic and Supercritical Fluids

MEET THE EDITOR. SEND HER YOUR NEWS.

Sandra K. Woodward has been appointed Development Officer for the Department of Chemical Engineering and will serve as editor of the newsletter. In addition, Sandy will be responsible for defining and communicating critical areas where financial support is needed for the department. She will also work with faculty and students in the context of existing courses and programs to hone students' oral and written communication skills.

Sandy has more years of experience in communications than she cares to own up to. Her experience includes tenure as a television news reporter, magazine editor, free-lance writer and marketing consultant. She is a Clemson graduate, as well as the wife of a Clemson graduate, the daughter of a Clemson graduate, the mother of a Clemson graduate and the mother of a current Clemson student!



woodwas@clemson.edu

Spring 2001 GradStats

Degree	Male	Destination				Destination		
		Industry	Grad School	Undecided		Female	Industry	Grad School
B. S.	23	12	5	6	18	9	3	6
M.S.	0				1	1		

UNDERGRADS HOST REGIONAL AICHE CONFERENCE

More than 300 chemical engineering students from across the Southeast attended the American Institute of Chemical Engineers Southern Regional Student Conference at the Madren Center April 5-7. The three-day event included a safety presentation, a paper competition and a small-car competition featuring vehicles powered by a chemical reaction. Students also had the opportunity to tour local industries, including BASF, BMW, Cryovac and Engelhard.

Students representing more than 20 schools from all 10 states in the region attended the conference, which was planned and coordinated by a team of Clemson chemical engineering undergraduates. "This was an outstanding opportunity to showcase our department and the university," said Associate Professor of Chemical Engineering Douglas Hirt, who advised the students. "The conference was a huge success and all of the credit goes to the corporate sponsors and our student organizing committee."



Student Stars

Julia E. Dubnansky, a graduating senior from Saxonburg, PA, received the Western S.C. Section of AIChE Scholastic Achievement Award given to the graduating senior in chemical engineering with the highest scholastic average. She also was one of only 21 students in the Class of 2001 who received the Faculty Scholarship Award at May 11 Commencement for her perfect 4.0 record. Julia will work with Exxon Mobil's Basic Chemicals and Intermediates Technology Group and plans to pursue an MBA degree.

John Perry, a junior Chem E major from Easley, SC, received a Barry M. Goldwater Scholarship. This prestigious scholarship is awarded to only about 300 students in the United States each year. John also received the American Institute of Chemical Engineers Award for the student completing the sophomore year with the highest scholastic average.

Rebecca Jelen, a graduating senior from Columbia, SC, received the J. Wesley Davis Leadership Award, given to a senior engineering student for outstanding scholarship, leadership in a student engineering organization, and high potential for success in the engineering profession.

SENIOR DESIGN PROJECT COMBINES SKILLS NECESSARY FOR SUCCESS

It's the both the end and the beginning for seniors. Ch E 432, Senior Design, gives seniors in their final semester an opportunity to pull together all they've learned as undergraduates and, at the same time, learn to meet the demands of the professional world by preparing a full-fledged project similar to those a career in Chem E requires.

Students work in four-member teams to complete the project. (This year's assignment required developing a proposal to use ultrafiltration to produce whey protein concentrate products to be sold as food additives for human consumption, which also happened to be the same problem used in the AIChE 2001 national student design competition.) In addition to learning the mechanics of researching and compiling data, the course objectives include improving students' oral and written communication skills. Students are required to keep a log of the time spent on the project and to evaluate both themselves and their team members.

This project provides students the opportunity to learn a number of skills they will need in the profession," said Professor Charles Barron, who teaches the course. "Compiling data is just the beginning. Personnel evaluation, record-keeping, ethics and the ability to communicate your work in both verbal and written reports are all essential to success in the profession, as is working in a team environment. This project is an important step in turning students into professionals."

Feedback is important for professionals as well as students, and Barron put together a review team to provide a broader scope of evaluation for students than the traditional method of one professor evaluating and grading work. The team included Associate Dean of Engineering and Science Steve Melsheimer, Professor of Architecture John Jacques, Environmental Consultant (and Clemson Chem E graduate) Kim Fail, and retired Design Project Manager Denver Bartee, formerly with DuPont and Fluor Daniel.

"Students reported that they found it very helpful to hear the observations of the review team. It's great experience for students to be able to respond to feedback from outside sources," Barron said.

Bookmark our website for updates:

<http://www.ces.clemson.edu/chemeng>

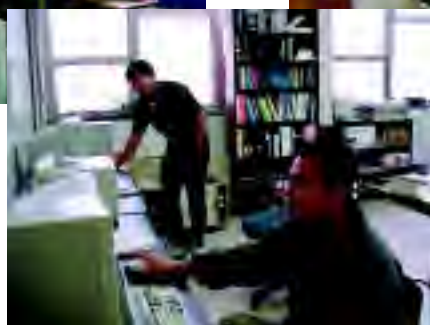
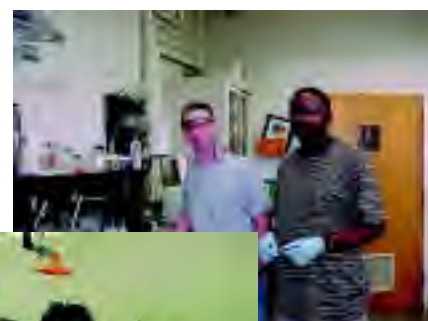
Chem E Family Album



The AIChE Spring Barbecue



Commencement Reception



Some of our hard-working graduate students

Walter G. Chapman (B.S. '83) Named Outstanding Young Alumnus

The College of Engineering and Science has recognized Dr. Walter G. Chapman, professor of chemical engineering at Rice University, with its Outstanding Young Alumnus award. Dr. Chapman was a leader in the development of the Statistical Associating Fluid Theory (SAFT) equation of state in the late 80s and early 90s. The SAFT equation is generally regarded by the Chemical Engineering community as the most significant advancement in equations of state since the early 70s. It is the first truly predictive equation of state for complex fluids, and its use in industry has led to significant advances in chemical process design.

Dr. Chapman graduated *summa cum laude* from Clemson, then completed his doctoral work at Cornell University in 1988. After working as a research engineer for Shell Development Company in Houston, he joined the faculty at Rice as an associate professor. He recently was awarded the Nicolas Salgo Distinguished Teaching Award and the Graduate Student Association Faculty Teaching and Mentoring Award for undergraduate teaching graduate teaching respectively.

An active member of the American Institute of Chemical Engineers, Dr. Chapman continues to be a moving force in chemical engineering, with an impressive number of research citations -- more than 1,100 -- over the past decade.

"We are proud to have Dr. Chapman as an ambassador for Clemson's Chemical Engineering program and as an example to our students," said Chemical Engineering Department Chair James G. Goodwin, Jr. "We congratulate him on his accomplishments and anticipate even more."



WANTED

YOUR MEMORIES

We're putting together a new display for the lobby of Earle Hall featuring photographs and other artifacts.

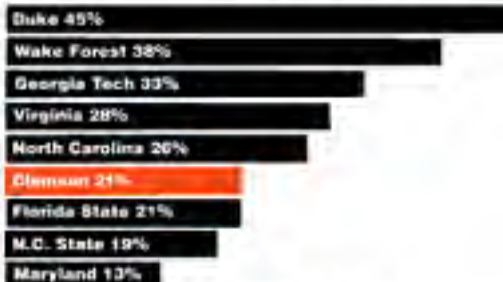
If you have any old photographs of the interior or exterior of the building, student and/or faculty activities, or any anecdotes you think would be of interest, please share them with us.

We will copy and return all original photographs and will credit all materials to the individuals who provide them.

Please contact Sandy Woodward by phone (864-656-2055) or email (woodwas@clemson.edu) to discuss arrangements for sharing items.

Sixth Place in the ACC? Help Us Improve!

Undergraduate Alumni Giving Among ACC Schools*



*as published by the U.S. News and World Report, September 1999.

Mark Your Fall 2001 Calendar

- ✓ September 15 ACES Barbecue (Clemson vs. Duke)
- ✓ October 20 Homecoming (Clemson vs. UNC)

Please let us know your professional accomplishments, publications, awards or other information so that we can share your good news with the Clemson Chem E family and the larger university community.

Email the editor:

woodwas@clemson.edu

Snail mail the editor:

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Capital Campaign Report . . . and the envelope, please!

We mean the enclosed envelope, of course, which is provided to assist you in making a last-minute contribution as the Campaign for Clemson draws to a close on June 30. Please consider a gift to the Department of Chemical Engineering. Educating the next generation of chemical engineers requires a commitment by the department to provide the best resources we can afford. That means we must provide a top-quality learning environment that reflects the professional world our students will enter upon graduation and we must recruit and hire top-quality faculty who will in turn attract top-quality students. (In case time runs out on you, we'll even take your contribution AFTER June 30!)

We are fortunate in Chemical Engineering to have liberal scholarship support for students. Our greatest needs lie in keeping laboratory and classroom equipment state-of-the-art, in maintaining facilities that are beginning to show their age, and in creating a sense of community and collegiality by making undergraduate and graduate students feel "at home" here in Earle Hall. The priorities we have set for the department are as follows:

- Laboratory Equipment and Supplies (including named laboratories)
- Program Enhancement
- Facilities Enhancement
- Faculty Support

Any support for the program you can provide will be greatly appreciated. Please keep the following points in mind when considering your gift:

1. **Gifts designated directly to the department allow us the greatest opportunity to put your gift to good use. Please make your check payable to The Clemson University Foundation and be sure to write Chemical Engineering on the "For" line in the lower left-hand corner of your check.**
2. Your private gift makes possible the enhancement of all three areas of the land-grant mission -- education, research and service. All are important aspects of educating the leaders of our profession and our society that we are committed to producing in this department.
3. Private support is increasingly important. President Barker's goal of moving Clemson to a position among the top 20 public higher education institutions in the country is both exciting and achievable and will require significant financial commitment beyond what the state budget provides. This year we face critical state budget constraints. Private support allows us to move forward in the face of such crises.
4. Investigate your employer's policy for matching contributions. Many companies offer programs to match your contributions. Some are quite generous, but all of them enhance your gift. Check with the Human Resources department where you work for details.
5. **YOUR GIFT CAN HELP MOVE CLEMSON UP IN NATIONAL RANKINGS.** We cannot say it too often: Annual alumni giving is an important factor in determining national rankings of colleges and universities. **Your gift matters!**
6. Planned giving offers many attractive options -- saving you tax dollars, avoiding capital gains, even increasing your current income. Call Sandy Woodward (864-656-2055) or Joy Workman (864-656-7696) for details.

A special thank-you to those who have made gifts or pledges of \$5,000 or more over the five-year Campaign period:

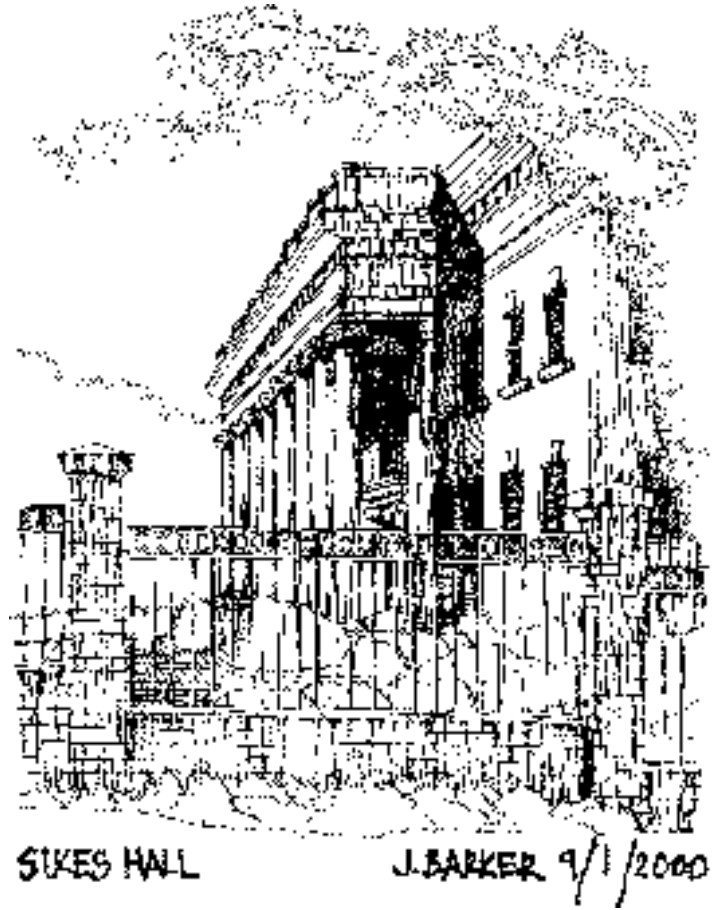
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A Final Note



Each edition of the newsletter will include scenes from around campus. We are pleased that our first such image is the work of President James F. Barker and appreciate his generosity in making his work available to us.



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