Luis Echegoyen Assumes Chair Position in Chemistry

The Department of Chemistry is very pleased to announce that Professor Luis Echegoyen, joined the Clemson Faculty in January 2002 as Professor and Chair of the Chemistry Department. Professor Echegoyen comes to our Department from the University of Miami. Professor Adolph Beyerlein who has held the Chair position the last 6 1/2 years is retiring after 34 1/2 years with the University. Professor Echegoyen brings to the Department a strong national reputation in experimental physical chemistry and a very distinguished academic career that spans over 25 years. Bringing his leadership to the Department has inspired the faculty and raised their expectations for the future. Professor Echegoyen was recruited by Dean Thomas Keinath from a list of distinguished academicians and scientists identified in a national search. Over the last 10 years the Department of Chemistry has experienced a very significant increase in research funding and made considerable progress in developing its faculty and national stature. Professor Echegoyen’s goal in assuming the chairmanship is to carry our departmental development to a new level which realizes the Departments longtime vision of being among the nations top 50 PhD granting chemistry departments. There are about 200 PhD granting Chemistry Departments in the United states and this goal would put us among the top 25%.

Although these are a very ambitious goals, Professor Echegoyen is looking forward to the challenge and says “I truly believe that we have an excellent chance to move forward and achieve our goals in a reasonable period of time”.

Professor Echegoyen received his PhD in 1974 from the University of Puerto Rico in Physical Chemistry. He spent one year as a Postdoctoral at the University of Wisconsin before joining the faculty at the University of Puerto Rico in 1977. In 1983 Dr. Echegoyen joined the University of Miami faculty as Associate Professor of Chemistry and assumed the rank of Professor of Chemistry in 1987. His professional experience also includes being the National Science Foundation Program Officer for the Chemical Dynamics program. He is the author of over 200 scientific publications and for his many achievements received the 1995 Florida-American Chemical Society Award. In 1996 the University of Miami honored him with the Provost’s Scholarly Award. Lourdes Echegoyen, wife of Professor Echegoyen will also be joining the Clemson faculty as a Lecturer in Chemistry. Both Professor Echegoyen and his wife, Lourdes, look forward to living in the Clemson area.

Ken Marcus Receives 2001 Governor’s Award For Research

The Department of Chemistry is most pleased that Professor R. Kenneth Marcus received the 2001 Governor’s Award for Excellence in Research at the 74th Meeting of the South Carolina Academy of Science in Conway, South Carolina April 6, 2001. Professor Marcus and his family were also honored by a ceremony in the Governor’s Mansion on March 16, 2001.

The Governor’s Award for excellence in Research is the highest award given statewide recognizing outstanding achievements in scientific research. Professor Marcus is the 2nd faculty member in our Department to received the award since the inception of the award in 1980. Darryl DesMarteau, our Tobey-Beaudrot Professor of Chemistry received the award in 1988.

Since joining the Clemson University Chemistry faculty in 1986, Professor Marcus has established a strong international reputation for the development of glow discharge methods for direct analysis of solid materials and on-line elemental analysis of fluid samples. Since the methods require low power, the instrumentation may be miniaturized for elemental analysis on on-line monitoring in contrast with traditional plasma flame emission spectroscopy methods which require large scale instrumentation not suited for on-line analysis.

The instrumentation based on Professor Marcus glow discharge sources was first marketed by Jobin Yvon in 1997 and currently has sales of $3,000,000. More recently Professor Marcus has initiated a joint venture with Protasis Corporation to develop and market on-line elemental analysis and molecular speciation instrumentation for liquid effluents in waste water streams. The glow discharge methods are currently used in our nation’s national laboratories, particularly Westinghouse Savannah River Laboratory in Aiken, South Carolina.

Clemson University honored Professor Marcus with the Provost’s Research Award in 1989 and the Alumni Association Distinguished Researcher Award in 1994. In the 1994 Pittsburgh Conference he was an invited participant in the Emerging Scientist Symposium and was named as one of the 15 brightest Stars in Analytical Spectroscopy by the editorial board of Spectroscopy. His research has produced $3 million in funding, 91 refereed publications, 44 invited Conference presentations and over 300 contributed Conference presentations. He was recently named to the National Research Council Panel for Assessment of National Institutes of Standards and Technology.

Professor Marcus attributes his success to his students. His research group has graduated 15 Ph.D. students and 6 MS students which have taken positions in the Nations premiere laboratories. Three of his graduates are in the Westinghouse Savannah River in South Carolina, one is in Oak Ridge National Laboratories, two are in the National Institute of Standards and Technology laboratories with one at the Hollings Marine Laboratory in Charleston.
Letter from the Retiring Chair

Luis Echegoyen (left) and Adolph Beyerlein (right)

With this letter I am announcing to you, my friends and alumni, my retirement from Clemson University which was effective December 31, 2001. Professor Luis Echegoyen, who is internationally known for his work in materials and fullerene chemistry has come to our Department from the University of Miami to become Professor and Chair of our Department.

It has indeed been a privilege to be a Clemson University faculty member for the past 34 1/2 years. I will cherish the memory of all of those years but perhaps I will cherish most the privilege of being the Department Chair of Chemistry for the past 6 1/2 years. I have been most fortunate that during these years the faculty have brought to the Department unprecedented growth in both research and scholarship.

I want to express my appreciation for all the strong support I have received from the faculty and staff as Chair of the Department. I am also grateful to our External Advisory Board for volunteering their time to our Department and providing us guidance that has been instrumental to our progress. I also wish to express my appreciation to the many alumni and friends of chemistry for their support of our Department while I was Chair. Without the support of our alumni and friends we could not support scholarships to maintain quality undergraduate programs or support seminar program and visitors who donate their time and services to our Department. I ask that you give the same support to Professor Echegoyen that you have given me.

The Department is very fortunate to have a very accomplished Alumni and is indeed very proud of their graduates and their accomplishments. Over the past 2 years, 3 of our Alumni have been inducted into the Thomas Green Clemson Academy of Engineers and Scientists and one of our Chemistry Alumni, Dr. Karen Brewer, received the College of Engineering and Science Outstanding Alumni Award. We continuously are working to improve the educational experience of all of our students. Over the past 5 years we have increased the role of undergraduates in the research enterprise through our undergraduate research program during the academic year and the NSF supported Summer Undergraduate research program, directed by Professor William Pennington. This has made the training and talents of our BS graduates much more attractive to potential employers.

This past year has been one in which the Department has again seen substantial growth in research, scholarship and graduate programs. Our research expenditures from external grants and contracts exceeded $2.5 million. Our previous record was $2.1 million and this is double our research expenditures just 7 years ago. This year our new grant awards $2,776,878 have already exceeded any previous record for the Department in any single year. We now rank among the premiere Universities in the nation with respect to our level research expenditures and new grant awards.

Our scholarship continues to increase our national visibility. Last year Ken Marcus received the Governor’s Award for research. Dr. Dennis Smith was the recipient of the national awards, the Cottrell Fellowship and Professor Ya Ping Sun has received the University’s highest award for scholarship, the Provost’s Award for Scholarly Achievement. One of our faculty, Dr. Dev P. Arya has received an NSF CAREER Development Award. Our graduate student numbers have grown substantially over the past year from about 82 to 93. The latter growth was made possible by Darryl DesMarteau moving his research group to the Research Park to make room for an increase in graduate student numbers.

Along with scholarship and research we have continued to grow our undergraduate program and improve the educational experience of our undergraduates. Through gifts of our friends and alumni we have increased the number of our endowments for scholarships from none in 1995 to 5 in 2001. I want to express our heartfelt gratitude for these gifts which will assure continued growth and quality of our undergraduate education.

In looking to the future, we remind ourselves that the Departments stature was not achieved by some isolated events or decisions. It is achieved by the work and talents of our very outstanding faculty. Faculty produce the scholarship and generate the Federal funding to support major equipment purchases, student and researchers salaries, and research operating costs. Our faculty have developed to their present stature because they had the vision of this Department being among the top PhD granting Chemistry Department in the nation and built a Strategic Plan that would realize that vision.

It is difficult to relay the value of our faculty but I know that many universities would pay huge sums of money (more than the cost of physical facilities like our chemistry building) for our faculty. However monetary appraisal does not give the true picture it only serves to accentuate how difficult it is to build an outstanding faculty like ours and that it is our most valuable asset. Raising funds to support Chaired Professorships to reward and honor our most outstanding faculty will be a future priority for our Department.

I will be remaining in the area and will continue to have my residence at 307 Lancelot Drive at Clemson. My telephone will be (864) 654 4128 and my e-mail after retirement will be albrl@BellSouth.net. I will remain active in the University as a volunteer and would like to hear from you.

Best Regards,
Adolph Beyerlein
Chair and Professor of Chemistry

Retirement Dinner for Adolph Beyerlein

The faculty, staff and friends of Adolph Beyerlein honored him with a retirement dinner held at the Café Rendezvous on January 26, 2002. Adolph Beyerlein’s retirement became effective December 31, 2001. Over 80 persons attended the event. The dinner program was led by Dr. Dennis Smith and it included gifts and presentations commemorating Adolph Beyerlein’s 34 1/2 year career as a faculty member of Clemson Chemistry. It was a thoroughly enjoyable event for everyone especially for Adolph Beyerlein and his family which included his Wife, Anne, his daughter, Irene, and his Son in Law, Jesús Ilundain.

The highlight of the evening was when the faculty, who joined the Department during Adolph Beyerlein’s tenure as Department Chair, lifted him up in a Chair that was presented to him as Gift from faculty, staff and friends. The Chair was a Heritage Family Tree Chair with an engraving of the Clemson University Seal and Adolph Beyerlein’s name on the backboard. Dr. Dvora Perahia presented him with a framed poster giving a creative listing of his scientific publications and pictures highlighting his career at Clemson University.

Adolph Beyerlein and his family express gratitude to the faculty and friends for making his 34 1/2 years at Clemson memorable and great years. Adolph thanks the faculty for the privilege of serving has their Department Chair for the past 6 1/2 years.
ELEVENTH ANNUAL SUMMER UNDERGRADUATE RESEARCH PROGRAM

The Department of Chemistry again hosted a very successful Summer Undergraduate Research program during the summer of 2001. There were 28 participants 11 of which came from Colleges and Universities from all over the nation. There were 2 students participating from the Governor's School, one student from Seneca High School, and 15 students from our own Chemistry majors program. The program is generously supported by the National Science Foundation and Research Grants from individual faculty participating in the program.

This year the program included one participant, Russell Watson, who had the opportunity to perform his research at National Taiwan University with Professor Shie-Ming Peng. This research was conducted as a pilot project for a Taiwan/Clemson University Exchange Program for undergraduate students, which was initiated by Shiou-Jyh Hwu and William Pennington, the Director of our SURP program. We are indeed excited about the possibility of this exchange program with Universities and National Laboratories in Taiwan.

Erin Ferguson and Colin McMillen were also part of the NSF Summer Undergraduate Solid State Chemistry Research Program. This year Professor Shiou-Jyh Hwu was named the Director the National NSF Summer Undergraduate Program in Solid State Chemistry. Participants for this program come from all over the nation to Clemson University for an orientation workshop After the workshop the participants travel to the participating institution where they will be performing their research. At the conclusion of the summer the participants return to Clemson to present their research results.

The accomplishments of the summer are presented at the Summer Undergraduate Research Symposium at the conclusion of the program. The students continue to impress everyone with their accomplishments. This year the research projects among those presented at the Symposium included DNA Triplex Stabilization which have important therapeutic applications, molecular wires, nanoparticles in perfluorinated ionomer membrane, microcontact printing for production of 2-D Arrays of silver nanoparticles, and hydrothermal synthesis of unusual alkali/alkaline earth metal borates. The final Symposium concludes with the Eminent Scholar Lecturer, which this year was Professor Royce Murray, Kenan Professor of Chemistry at the University of North Carolina at Chapel Hill.

The Program includes the traditional Picnic at the beginning of the summer and the raft trip down the Nantahala River, later in the summer.

EMINENT SCHOLAR LECTURER.
Dr. ROYCE MURRAY

The highlight of the Summer Undergraduate Research Symposium and the premiere seminar event is the Eminent Scholar Lecture. This year we were privileged to have Dr. Royce Murray, the Kenan Professor of Chemistry at the University of North Carolina. His seminar was entitled “Modern Chemistry Research: Students Learning and Publishing it, Libraries storing it.”

Professor Murray draws on both his considerable experiences as a scientist and as the Editor in Chief of the American Chemical Society Journal, Analytical Chemistry, in lecturing on the topic of publishing scientific research. The explosion in research productivity at the end of the 20th century and the beginning of the new millennium has also created an explosion in scientific literature. Professor Murray’s presentation focused on the methods being put in place to provide for efficient or effective access and retrieval of the journal publications and storage.

The methods include electronic storage, electronic search engines searching for articles, and electronic retrieval of titles as well as entire articles and books. The electronic retrieval and storage solve space problems libraries are experiencing with traditional journal storage and electronic search and retrieval allow for students and faculty to have access to the literature from their desktop computer and printer. Professor Murray also described positive implications for the average researcher both in publishing and retrieval of the literature and also some of the problems he/she must cope with. The lecture was attended by both faculty and librarians and generated much lively discussion on the merits of electronic publishing and retrieval versus hardbound copy.

In introducing Professor Murray it was noted that he had pioneered research in many areas of analytical chemistry, graduated 79 Ph.D. and MS students. Over 50 Postdoctoral associates and 57 visiting scientists have worked in his laboratory. The Department of Chemistry is most pleased to have two of his Ph.D. graduates, Professor Stephen Creager and Dr. Karen Creager, on our faculty.

Professor Murray is a member of the National Academy of Sciences, is a Fellow of the American Institute of Chemists, the American Academy of Arts and Sciences, American Association for the Advancement of Science and The Electrochemical Society. His awards include: the ACS Division of Analytical Chemistry Award in Electrochemistry, The ACS Award in Analytical Chemistry, The Olin Palladium Medal of the Electrochemical Society, and the Electrochemistry Group Medal Award of the Royal Society of Chemistry in London.
Clemson Chemistry Alumni Inducted into the Thomas Green Clemson Academy of Engineers and Scientists

Since our last Newsletter three Clemson Chemistry Alumni have been inducted into the prestigious Thomas Green Clemson Academy of Engineers and Scientists. During the last induction ceremony February 21, 2002 Dr. Earl Wagener and Dr. James E. Bostic were inducted and in 2001 Dr. Marshall (Sonny) White was inducted on February 22, 2001. Induction into the academy recognizes alumni with distinguished careers which include outstanding contributions to science and engineering and public service.

In our previous Newsletter we announced the induction of Chemistry Alumni, Dr. Kenneth Wagener and Dr. J. Kirk Sullivan, into the Academy in the year 2000. Dr. Kenneth Wagener, who is the Butler Professor of Chemistry at the University of Florida is the brother of Dr. Earl Wagener, one of this year’s inductees. Also during the year 2000 Clemson Chemistry Alumnus, Dr. Karen Brewer, received the College of Engineering and Science Outstanding Young Alumni Award.

Dr. James E. Bostic

Dr. James E. Bostic graduated with both Bachelors (Class of ’69) and PhD degrees in Chemistry from Clemson University. Following his graduation in 1972 with a PhD, Dr. Bostic began an outstanding career that spanned both Government and the Chemical Industry. He served as Special Assistant to the Secretary of Agriculture from 1972 to 1977 before assuming his first industrial position at Riegel Textile Corporation in 1977. In 1985 he joined the Georgia Pacific Corporation where he rose to his present position of Executive Vice-President of Environmental and Governmental Affairs.

As Executive Vice President of the Environmental and Governmental Affairs Division of Georgia Pacific he led scientific research which made Georgia Pacific a leader in environmental practice and policy that was not only critical to Georgia Pacific but to the entire pulp and paper industry. His leadership on environmental policy is highlighted by his selection to serve on the Board of Trustees of the National Parks Conservation Association from 1998 to present.

Dr. James Bostic’s career included numerous very notable contributions to society, government, Clemson University and the State of South Carolina. He has held over 24 board memberships on universities, colleges, both national and local level civic organizations and banks. Particularly noteworthy societal contributions to South Carolina and Clemson University are Dr. Bostic’s service as a Member, Vice chairman and Chairman of the South Carolina Commission on Higher Education from 1978 to 1983. In 1983 he was elected to the Clemson Board of Trustees and served in that capacity until 1988. He is a loyal Clemson supporter, who presently serves on the

Earl Wagener

Dr. Earl Wagener graduated from Clemson Chemistry with a Bachelors degree in 1962 and continued on to receive his PhD in Chemistry from Clemson University in 1967. He started his professional career with The Dow Chemical Company Central Research Laboratory (1967-1974) in Midland, MI where he quickly established a leadership role in both science and its applications. He was named the Laboratory Director of the prestigious Walnut Creek c Discovery Group in California (1974-1984) where he led the development of key membrane technologies of tremendous scientific and societal benefit. Dr. Wagener then joined Stepan Chemical as Vice President for Research and Development a position he held until his retirement in 2001. He was recently named Chief Operating Officer of Clemson University spinoff company, Tetramer Technologies, LLC.

Dr. Wagener’s scientific contributions are characterized by their tremendous impact on many technologies of commercial and technological importance. His work produced breakthrough membrane technologies which included affordable kidney dialysis technologies that save many lives, reverse osmosis for water purification and irrigation, and gas separation. He was also responsible for leading the development of cathodic electrodeposition which is used today by automobile manufacturers as the method of choice for coating automobiles in assembly plants around the world.

He championed membrane development at Dow in Texas, which reduced water and air pollution and at Stepan Chemicals he led the development of water blown polyurethane technology, an environmental advance that eliminates stratospheric ozone depleting chemicals as blowing agents. The latter development led

Marshall ‘Sonny’ White

Dr. Marshall ‘Sonny’ White was inducted into the Thomas Green Clemson Academy of Engineers and Scientists on February 22, 2001 at a College of Engineering and Science induction banquet. Marshall ‘Sonny’ White had an exceptional career in the chemical industry which took him from research scientist with GAF Corporation to President and Global Head of Sales of Ciba Specialty Chemicals Corporation. He retired from Ciba Specialty Chemicals in June 2001 to assume the position of Executive Vice President at Guilford Technical Community College in Greensboro, North Carolina.

Dr. ‘Sonny’ White is also an alumnus of Clemson Textile Chemistry receiving his BS in Textile Chemistry in 1965. He then went on to earn Ph.D. in chemistry in 1975 from Clemson. His scientific accomplishments began with his Ph.D. thesis when his work on dye uptake for polyesters provided for design of dye processes that guaranteed uniformity and color fastness. These discoveries had a significant impact on the industry and the Southeast because of the highly competitive nature of the textile and carpet industry. Dr. White also is a member of the American Association of Textile Chemists and Colorists and the Pulp and Paper Industry Management Association. He serves as a Director of the Soaps and Detergent Association and also the Technical Committee of the National Textile Center.

In addition to his Clemson degrees, Dr. White is a graduate of the Harvard Advanced Management Program. He is a former adjunct professor at Winthrop
Dr. Melanie Cooper Named Distinguished Alumni Professor

Interim Provost Doris Helms announced that Melanie Cooper, Professor of Chemistry is awarded the title of Distinguished Alumni Professor of Chemistry at the December 18, 2001 General Faculty meeting. Among the criteria for being named an Alumni Professor are outstanding contributions in education and teaching. In naming Dr. Cooper Distinguished Alumni Professor, Provost Helms cited her many outstanding contributions to chemical education and teaching. Professor Cooper is nationally and internationally known for her contributions to chemical education. She pioneered cooperative learning methods for large chemical laboratories. Her work has received much national recognition, the most notable being a much-cited Science article (Vol.266, p.4 (Nov. 1994)).

Professor Cooper joined the Clemson faculty as assistant professor of Chemistry and Director of the Undergraduate Laboratories in 1987. She was tenured in 1993 and promoted to Professor in 1997. Dr. Cooper received her B.S. (1975), M.S. (1976) and Ph.D. (1978) from the University of Manchester, England. Her graduate and postdoctoral work were in organic chemistry before she turned to chemical education her present area of research.

As Director of the General Chemistry and Organic Chemistry teaching laboratories Dr. Cooper reaches more than 2000 of our students a semester. Professor Cooper has put these teaching laboratories in a cooperative learning environment that provide a teamwork experience, challenges students with real world problems, and promotes good laboratory safety practice. For many of her contributions in teaching and education, The Clemson University College of Science and the Division of Chemical Education awarded Dr. Cooper the 1997 Award for Excellence in Teaching in the Sciences.

Dr. Cooper's scholarship and research has been continuously funded by NSF since she began her faculty position. Some of her past scholarly accomplishments includes a laboratory textbook with McGraw Hill entitled, Cooperative Learning Laboratories and she has published a number of papers in the Journal of Chemical Education. She is author of the software SuperChemLab and SuperOrganicLab, which have recently been made available on the web. In 2002 she will serve as the Chair of the Gordon Research Conference on Innovations in College Chemistry Teaching. She is part of the American Chemical Society writing team for a new General Chemistry Course. She was recently elected as Councilor for the American Chemical Society from the Division of Chemical Education.

Professor Cooper has been a panel reviewer on numerous occasions for NSF and in 1993 she was a Panel Reviewer for the National Endowment for the Humanities. She served the Clemson University General Education Task Force from 1998 to 2000.

Professor Cooper also actively supports local educational activities as a science fair judge and by holding workshops. Most recently she directed a WISE (Women in Science) workshop for middle school girls. She is frequently a resource person for her colleagues as well as for news agencies radio and TV on web based, multimedia and other new teaching methods.

Dev Arya Receives NSF CAREER Award

Dr. Dev Arya is the recipient of the NSF CAREER Development Award for 5 years for $575,000. The Award is for the development of a nationally competitive program which takes a multidisciplinary approach to drug development that takes advantage of small molecule-nucleic acid interactions. The program will have both educational and research components. This proposed research offers exciting new possibilities for HIV and cancer treatment which produce almost no side effects associated with current chemotherapeutic methods.

The NSF Faculty Early Career Development Grants are awards which are given to junior faculty in both science and Engineering disciplines. The awards are based on high potential to achieve national recognized excellence in teaching and scholarship and play leadership role in the profession at both a national and international level. About 350 of these Grants are awarded each year. Dr. Dennis Smith received the Award in 2000 and Dr. Dev Arya is the second Chemistry faculty member to received a CAREER Award over a two year period.

Dr. Arya brings to our Department of Chemistry exceptional experience and talents on the synthesis of nucleic acids mimics that recognize and bind to targeted gene profiles. He has established new interdisciplinary collaborations with Dr. Thomas Wagner, Director of Oncology Research at the Greenville Hospital, who is identifying gene targets for binding with polycations synthesized in Dr. Arya’s laboratory. Dr. Arya’s proposed development of a biopolymer curriculum with an emphasis on carbohydrate chemistry and the establishment of a biochemistry course for our chemistry majors will integrate or align our educational programs with existing biological science curricula.

Dr. Arya received his PhD from the Northeastern University in 1996 before joining Professor Bruice’s research group at the University of California in Santa Barbara. His Honors include being a recipient of the Accounts of Chemical Research Graduate Prize while a graduate student at Northeastern University. In 1998 he received a Dreyfus Foundation Fellowship to attend “Academic Careers in Chemistry” workshop.
Ya-Ping Sun Receives Provost Award

Ya-Ping Sun, Professor of Chemistry, was presented the Provost’s Award for Scholarly Achievement at the May 10, 2001 General University faculty meeting by Provost and Vice President for Academic Affairs, Doris Helms. The Provost’s award is the highest award given by the University to faculty for scholarly achievement. This year Professor Sun was one of 4 recipients to receive the award.

Professor Sun joined the Clemson Chemistry faculty in 1992 and since that time has established himself as a leading scientist in research areas that are timely and exciting. Most of his work is on fullerene compounds (C_{60} and C_{70}) and carbon nanotubes, with their applications in optical materials and polymeric composites. However while at Clemson he has continuously upgraded his research infrastructure to include strong synthetic capabilities and state-of-the-art optical and other characterization techniques. With this added research capability he has become a leader in nanotechnology, a new and exciting area of research that studies small nanoscale (length scale about 10^{-9} meters) particles or materials composed of nanoscale particles.

Professor Sun’s research in nanomaterials and nanotechnology is supported by 9 research grants valued at $1,770,990 and is co-investigator on $540,000 USDA grant. In these areas he has collaborations with research groups at Georgia Tech, North Carolina State University, NASA Langley Research Center, Air Force Research Laboratory, Army Research Laboratory, Oak Ridge National Laboratory, and Idaho National Engineering and Environmental Laboratory.

His research budget was over $400,000 last year and will exceed $600,000 this upcoming year. He has a research group of 16 researchers, which includes 11 graduate students, 4 postdoctoral fellows, and 1 undergraduate. Over the years he has encouraged undergraduates to be involved in research. During his career he has had over 30 undergraduates in his research group who have co-authored more than 25 research publications. His Ph.D. graduates have taken positions in some of the nation’s premier laboratories, like the Air Force Research Laboratory in Dayton, Ohio and the Idaho National Engineering and Environmental Laboratory.

Professor Sun’s professional service speaks to the high regard his peers have for his scholarship and research. His service includes Editorship of a book (Supercritical Fluid Technology in Materials Science and Engineering, to be published by Marcel Dekker later this year), organizing a number of symposia, and conferences, and organizer of a nanoscience and nanotechnology research initiative at Clemson University. Professor Sun has a total of 92 refereed journal publications, several book chapters, 23 other scholarly publications, which is a remarkable level of scholarship for a faculty member so early in his career.

Dennis Smith Receives Cottrell Scholars Award

Congratulations go to Dennis Smith who has received the Cottrell Scholars Award. The award is sponsored by Research Corporation for faculty in astronomy, chemistry and physics and carries with it $75,000 which may be used according to the Scholar’s discretion. The award is given to faculty in their first three years of tenure track service who have the prospect of making significant fundamental advances to science. Aspirations for teaching and a commitment to research based teaching are also weighed in the review process. Dr. Smith is the first Clemson faculty member to receive the award.

Dr. Smith has established an exceptional career in his three years at Clemson by any standard. He has established a research group of 10 graduate students, 2 postdoctorals, and one undergraduate. His research has over $3,000,000 of support from external research grants. Other Honors and Awards that Dr. Smith has received since joining the Clemson faculty are the 3M Company Award and the NSF Career Award. Clemson University has honored Dr. Smith by presenting him the College of Engineering and Science Award for Excellence in the Sciences.

Dr. Smith is the Assistant Secretary of the American Chemical Society Division of Polymer Chemistry, is on the editorial board of High Performance Polymers (American Institute of Physics Journal), and has been the organizer of 5 national level symposia and conferences. Last year he was appointed a visiting professor at University at Heidelberg, Germany and taught “Perspectives in Polymer Research”. In addition to his research, scholarship and professional service Dr. Smith is also involved in educational outreach as organizer of K-12 Teacher Workshop with the Intersocietal Polymer Education Council to be held in Summer of 2002.

Dr. Smith will use the Cottrell Scholar Award funds to investigate “Synthesis and Fabrication of Novel Fluoropolymers for Photonics Applications”. This work is related to the polymeric thrust, lead by Dr. Smith, within the Clemson University Center for Optical Materials Science and Engineering Technologies (COMSET). Dr. Smith is one of the Charter members and organizers of COMSET which is the focal point for the State of South Carolina in research and technology relating to materials for photonic devices and applications.
Grant Goodyear Joins the Physical Chemistry Faculty as Assistant Professor of Chemistry

The Department of Chemistry is pleased to announce that Dr. Grant Goodyear joined the department as assistant professor of physical chemistry in August 2001. He adds to the strength the Department already has in computational and theoretical chemistry. His interests, which cover solvent dynamics, statistical mechanics and thermodynamics, will complement ongoing experimental and theoretical efforts in supercritical fluids, polymers, and surfaces. Dr. Goodyear already has 16 publications in these areas and brings with him ongoing research in solvent dynamical effects on reacting solvent molecules using Langevin Equation techniques and instantaneous normal modes.

Dr. Goodyear received his PhD from Brown University under the direction of Professor Richard Stratt, one of the nation’s leading theoreticians in the area of ultrafast dynamics in liquids and its implications for ultrafast spectroscopy; the elementary events by which solutes relax in liquids. After receiving his PhD Dr. Goodyear performed Postdoctoral studies with Professor Susan Tucker at the University of California at Davis from 1997-99 and with Professor Tony Haymet of the University of Houston. Dr. Goodyear is the recipient of several awards which includes the 1997 Potter Prize for a Doctoral Thesis of Outstanding Merit and the 1997 Sigma Xi Graduate Research Award for Outstanding Graduate Research.

Lourdes Echegoyen Joins Faculty as a Lecturer in Chemistry

The Department of Chemistry is pleased to announce that Dr. Lourdes Echegoyen joined the Department of Chemistry faculty as a Lecturer in Chemistry in January 2002. Prior to joining the chemistry faculty Lourdes held the position of Research Associate and Instructor at the University of Miami. In assuming the chemistry instructor position at Clemson she accompanies her husband, Luis Echegoyen who assumed the position of Chair and Professor of Chemistry in January 2002. Dr. Lourdes Echegoyen arrived early in the fall of 2001 and coordinated the installation of the new Bruker EPR spectrometer. In the spring semester she will be teaching in the General Chemistry program.

Dr. Lourdes Echegoyen received her BS and PhD at the University of Miami. She held the position of High School Science Teacher at the Belen Jesuit Preparatory School before joining the University of Miami faculty as Research Associate and Instructor in 1998. Her research areas are membrane diffusion, preparation and characterization of lipid bilayers and micellar systems. In her work she makes considerable use of electron spin resonance (ESR), nuclear magnetic resonance (NMR), and electrochemical methods.

Clemson-Ausimont Connection

The Clemson-Ausimont Collaborative Research Program in fluorine chemistry began in 1985 and has been continuously funded by Ausimont since 1985 to join the Clemson-Ausimont Collaborative Research Program in fluorine chemistry under the direction of Professor Darryl D. DesMarteau. Milena arrived in Clemson on October 1, 2001 and will stay one year.

SpA ever since. Ausimont, whose headquarters are in Milan, Italy (formerly Montefluos), is a multi-billion dollar multinational chemical company specializing in fluorochromics for diverse applications ranging from architectural coatings, chemical process equipment, electrical wiring insulation and high performance lubricants to fluorinated gases for the semiconductor industry. Among the Fortune 500 list of the most innovative enterprises based on patents, Ausimont is ranked 3rd in Italy and 125th in the world. Ausimont has production facilities in North America and Europe and offices throughout the world.

The basis for the Clemson-Ausimont collaboration was the internationally recognized research program in fluorine chemistry of Professor Darryl DesMarteau and Ausimont’s desire to carry out basic research in areas of critical interest, as well as to provide research training for Ausimont employees. Dr. Walter Navarrini was the first Italian to participate in the program in 1985 and today he is the Head of the Advanced Fluorine Chemistry Group at Ausimont Central Research and Development in Bollate, Italy on the outskirts of Milan.

In addition to supporting eight Italian coworkers in Clemson since 1985, three PhD degrees in chemistry supported by Ausimont have been granted and four postdoctoral fellows have been supported for an average of two years each. A fourth PhD student is currently working in the program. This collaborative research program has produced 17 European and U.S. patents, 31 publications and 48 presentations at national and international scientific meetings. Numerous advances in process technology and ideas for new products and intermediates have come from the program.

In 2000, DesMarteau spent three months in Italy while on sabbatical leave, working with Ausimont and his first Italian collaborator, Walter Navarrini. According to DesMarteau “this has been a marvelous example of a mutually beneficial University-Industry collaboration. The arrival of Milena Stenga continues the tradition.”
Symposium Honors Professor Abramovitch’s 70th Birthday

The Department of Chemistry presented a 70th Birthday Celebration Symposium in honor of Professor Rudolph Abramovitch on May 7, 2001. The symposium speakers included the following distinguished scientists from academia and industry: Professor Daniel Falvey, from the University of Maryland, Professor Alan Katrizky from the University of Florida, Dr. Eric Scriven from Reilly Industries in Indiana, Dr. Evan Kyba from Alcon Labs in Texas, Professor Alessandro Dondoni from University of Ferrara, Italy, Dr. Dev P. Arya from Clemson University, and Professor Thomas Harris from Vanderbilt University. The Department of Chemistry expresses gratitude to Dr. Dev Arya and Patricia John for making the symposium arrangements.

Two of the symposium speakers were students of Professor Abramovitch. Dr. Evan Kyba, received his PhD under Professor Abramovitch’s Direction. He then did a postdoctoral with Donald Cram at UCLA and following that joined the University of Texas where he rose through the ranks to full professor before joining Alcon, where he is now Vice President. Another Symposium lecturer, Eric Scriven was a post doc with Professor Abramovitch in Alabama. He returned to England and became a lecturer at the University of Salford (Manchester, England) before joining Reilly Tar.

Professor Abramovitch joined the Clemson Chemistry faculty as Department Head in 1977. His career in Clemson Chemistry is characterized by many outstanding contributions to research and education. At that time he had already established himself as a nationally and internationally known scientist in free radical and heterocyclic chemistry. Prior to joining the Clemson faculty he had held faculty positions as Professor of Chemistry at the University of Saskatchewan and the University of Alabama. While a Clemson Faculty member he spent a year in France in 1981 on a Fulbright Award as Visiting Professor at the Universite’ d’Aix-Marseille, Emilio Noelting Chair of Chemistry at the Universite’ de Haute Alsace (Mulhouse) and finally as a visiting professor at the CNRS at Gif-sur-Yvette with Sir Derek Barton. In 1991 he spent six months as Visiting Professor at the Autonoma University in Barcelona, Spain.

Professor Abramovitch was born in 1930 in Alexandria Egypt where he graduated from Farouk University with a B. Sc degree as well as a 1st class honors B.Sc. degree from the University of London in 1950. Dr. Abramovitch earned his B.S. (honors program, 1950) from the University of London. He received his Ph.D. (1953) at King’s College, London, and D.Sc. (1964) from the University of London. He is the author of over 200 scientific papers and several books. He serves on several editorial boards, including Heterocycles, Organic Preparations & Procedures International, and Advances in Heterocyclic Chemistry. He is the editor of the multi-volume series, “Reactive Intermediates,” and has served as editor of Heterocyclic Chemistry. Clemson University honored Professor Abramovitch by presenting to him their highest research award in 1983, the Sigma Xi Award.

Clemson Hosts NSF Summer Research Program in Solid State Chemistry

Last year Clemson Chemistry organized and hosted National Science Foundation (NSF) Summer Undergraduate Research Program in Solid State Chemistry. This is a National Program sponsored by the National Science Foundation. Clemson University Chemistry was awarded the honor of hosting this NSF program through the efforts of Professor Shiou-Jyh Hwu, who is the faculty coordinator and manager of the program. Professor Hwu earned this honor for Clemson with the presentation of a Proposal to NSF.

The students are selected for the program on a competitive basis and the selection process is managed and coordinated by the host institution (Clemson). The students in the program perform research in the laboratories of participating faculty and universities all over the nation. Prior to starting their summer research all of the students meet at the host institution (Clemson) for an orientation session. After the students have completed their summer work they again meet at the host institution for a Final Symposium where all students have an opportunity to present their work.

The 2001 NSF Solid State Chemistry Summer Research Program had 18 student participants representing colleges and universities from all over the nation. Two Clemson University students, Colin McMillen and Erin Ferguson, participated in the Program. The Final Symposium was held from August 3 to 7, 2001. The Symposium Week also included plant visits to the Kosa Plant in Spartanburg, SC and the Lucent Technologies Plant in Atlanta, Georgia.

Instructors in the program providing tutorials were Professor Richard Gregory, Clemson University; Professor Shiou-Jyh Hwu, Clemson University; Professor Joseph Kolis, Clemson University; Professor James D. Martin, North Carolina State University; Professor Karen Nordell, Lawrence University; Professor William Pennington, Clemson University; Professor Kimberly Rickert, University of Wisconsin; Dr. Dennis Smith, Clemson University; Professor Angus P. Wilkinson, Georgia Institute of Technology; and Professor Hanno zur Loye, University of South Carolina. The Department of Chemistry also wants to acknowledge the work of Patricia John, who was the Administrative Assistant to the Program, printed the materials, provided the communications, arranged travel for the participants and made all local arrangements. We also express appreciation to David Crockett for Technical Assistance and Garrell W. Malstrom for Media Assistance.

Dr. James E. Bostic (cont.)

Clemson University Foundation Board and IPTAY Board of Directors. Dr. Bostic also served on the Board of Trustees of Wofford College, The Georgia Conservancy, and Tuskegee University. He also is the recipient of numerous other awards for his civic contributions which include the 1979 Distinguished Service Award from the Greenville Jaycees, and the 1983 Outstanding Public Servant of the Year Award, the 1990 Distinguished Clemson University Alumni Award, and the 1990 Outstanding Textile Alumnus Award. He continues to serve on the SC Association of Minorities for Public Administration. He has served on the National Academy of Engineers Committee on Minorities in Engineering from 1975-76 was a member of the US Department of Commerce Management Labor Textile Advisory Committee from 1978-85, and serves on the Presidents Commission for White House Fellowships (1981-Present).

Dr. Bostic is the recipient of numerous awards which includes the Future Farmers of America Honorary Farmer Degree in 1976 for his many contributions to Agriculture while Assistant Secretary of Agriculture from 1973 to 1976. For his civic contributions he received the 1979 Distinguished Service Award from the Greenville Jaycees, and the 1983 Outstanding Public Servant of the Year Award, the 1990 Distinguished Clemson University Alumni Award, and the 1990 Outstanding Textile Alumnus Award. He continues to serve on the SC Association of Minorities for Public Administration.
Chemistry Students Receiving Degrees in 2000/01

Doctor of Philosophy
Melissa Dempster
Mehtap E. Eanes
Ritchie C. Eanes
Mustafa Guzel
Qun Huang
Mutlu Ulutagay Kartin
Ismail Kul
Jianzhong Lu
Kai Lu
Gary W. Pflourde II
Philip T. Radford
Jason Riggs
Greg John Shafer
James J. Sumner
Brian H. Thomas
Rosa D. Walsh

North Myrtle Beach, South Carolina
Simpsonville, South Carolina
Midlothian, Virginia

Master of Science
Jeffrey L. Harris
John C. Maloney
Erik J. Nelson

North Myrtle Beach, South Carolina
Simpsonville, South Carolina

Bachelor of Science
Ethan R. Ballard
Casey M. Beard
Matthew Blum
Matthew Branham
Lakeesha M. Butler
Michael Capracotta
Shannon R. Cooke
Lisa M. Coward
Juanita Edwards
Natasha A. Edwards
Pete D. Giacopelli
Jonathan D. Griffith
April Hall
Jermaine Johnson
Joshua P. Kearn
James R. Lee
Robin L. Patterson
Hassan M. Pressley
Shannon Schoppman
Charles R. Sides
Paul V. Stklennik
Shelby Taylor
Bethany F. Wells
Laura Jeanne Marie Wichmann

Easley, South Carolina
Clemson, South Carolina
Solon, Ohio
Lugoff, South Carolina
North Augusta, South Carolina
North Charleston, South Carolina
Simpsonville, South Carolina
Richmond, Virginia
Georgetown, South Carolina
Georgetown, South Carolina
Anderson, South Carolina
Greenville, South Carolina
Easley, South Carolina
Trenton, South Carolina
Huntington, West Virginia
Greenville, South Carolina
Spartanburg, South Carolina
Nesmith, South Carolina
East Patchogue, New York
Fort Mill, South Carolina
Chesnee, South Carolina
Beaufort, South Carolina
Rock Hill, South Carolina
Charleston, South Carolina

Clemson, South Carolina
Anderson, South Carolina
Spartanburg, South Carolina

Bachelor of Arts
Felipe A. Ortiz
Michael Watson
David R. Whitley

Clemson, South Carolina
Anderson, South Carolina
Spartanburg, South Carolina

Clemson Chemistry Hosts Advanced Placement Chemistry Teachers Workshop

Fourteen high school chemistry teachers from across South Carolina participated in a two-week Advanced Placement Chemistry Course workshop at Clemson beginning July 8, 2001 and extending through July 20, 2001. Advanced Placement Chemistry courses provide talented high school students the opportunity to receive College or University course credit in chemistry. The workshop, which is sponsored by the State Department of Education and coordinated through the Clemson University Office of Undergraduate Studies, prepares high school teachers for teaching advanced placement chemistry courses.

The workshop was taught by Eddie Case, a visiting faculty member of the Department of Chemistry and by the Master Teacher Dianne Earle from Dorman High School in Spartanburg County. The material covered in the workshop included a variety of general chemistry topics such as equilibrium, thermodynamics, and kinetics. Participants also spent several hours each day in the teaching labs, acquainting themselves with laboratory projects which they may used in their classrooms. In addition to the hours of class time and the many hours of homework, participants were also treated to samplings of the tastes of Clemson through a variety of luncheons, banquets, and ice cream socials.

The Chemistry faculty appreciated the opportunity to present their research and teaching interests to the participants and are excited about possible areas of collaboration in the future. The Department of Chemistry is very appreciative of the opportunity to host the workshop and expresses gratitude to Eddie Case and Dianne Earle for their efforts in conducting the workshop. Finally we congratulate the participants on the successful completion of the AP Chemistry Institute.

Earl Wagener (cont.) to Stepan Chemicals receiving the American Chemical Society Hero of Chemistry Award.

Dr. Wagener’s career is characterized by leadership in both research and professional service. During his career he held leadership positions in eleven laboratories in the United States and Europe with budgets ranging from $600,000 to $33 million, he negotiated more than $32 million in government contracts and $8 million in industrial contracts. Built four R & D Laboratories which involved more than $32 million in Capital Expenditures and coached R & D Career Development for more than 1,000 people.

Dr. Wagener’s profession service includes serving as Chairman of the Research Quality Council, Chemical Specialties Manufacturing Board of Directors, Industrial Research Institute and the Clemson Chemistry External Advisory Board. Dr. Wagener was elected to the International Board of the Society of Plastics Institute (1989-1992). With his Brothers, Professor Kenneth Wagener and Ben Wagener, Dr. Wagener established the prestigious Hattie B. Wagener Staff Award commemorating the service of their mother to the College of Engineering and Science. During his time at Dow Chemicalaland Stepan Chemicals Dr. Wagener published a 316 page workbook entitled, “R&D Career Satisfaction” which defines dedication to mentorship and the value of career satisfaction for the researcher.
Chemistry Department honored its outstanding students with an Honors and Awards Day Luncheon and Ceremony on April 7, 2001, in the Clemson House. Eighteen students received awards and over 60 persons attended the luncheon, including faculty, friends and family of students receiving awards. Dr. Adolph Beyerlein, Chair of Chemistry presided over the ceremony and made the award presentations. The ceremony honored both outstanding undergraduate and graduate students. The College of Engineering and Science Awards ceremony followed the Departmental awards ceremony at 1:00 PM in Brackett Auditorium.

Four of our students, Matthew Ryan Branham, Elizabeth Anne Hughes, Weijie Huang, and Michael T. Mury were also honored at the College of Engineering and Science awards ceremony. Matthew Ryan Branham received the Mark Bernard Hardin Prize in Chemistry. Elizabeth Anne Hughes received the Warwick Chemical Foundation Fellowship, which is given to an outstanding chemistry major. Weijie Huang received the College of Engineering and Science Outstanding Graduate Researcher Award as well as the Departmental Outstanding Research Award. Michael Mury received the College of Engineering and Science Outstanding Graduate Teaching Assistant Award. Michael Mury also was the recipient of the University wide Graduate teaching assistant award, a highly competitive and prestigious award.

The Mark Bernard Hardin Prize awarded to Matthew Ryan Branham is given to an outstanding chemistry major with high scholastic rating and outstanding qualities of character and leadership. The Award consists of Medallion and cash gift. Matthew is from Lugoff, South Carolina.

The Warwick Chemical Foundation Fellowship is awarded to the outstanding junior chemistry major who intends to do graduate studies in chemistry. The award carries with it a cash gift. Elizabeth Anne Hughes, the recipient of this award, is from Columbia, South Carolina.

The Senior Research Award for outstanding research was given to Michael David Capracotta of North Charleston, South Carolina. Michael Capracotta was also recognized for the ACS Award for Outstanding Chemistry Senior which he received at the final meeting for the academic year of the Western Carolinas Section of the American Chemical Society.

The winner of the Chemistry Faculty Award is Lisa Marie Coward of Chesterfield, Virginia. This award consists of a Plaque and is awarded to the outstanding chemistry major.

Russell Patrick Watson of Columbia, South Carolina was the recipient of the American Chemical Society Award for outstanding undergraduates active in the Student Affiliates of the American Chemical Society Chapter.

Holly Elizabeth Roback of Spartanburg, South Carolina received the American Institute of Chemists Award. The American Institute of Chemists sponsors this award for an outstanding senior.

Shannon Recca Cooke, of Simpsonville, South Carolina received the Merck Index Award. This award is given to the outstanding junior or senior chemistry major who has a high potential to become an effective professional Chemist. The recipients are presented a copy of the Merck Index.

The Chemical Rubber Company Award is given to the outstanding freshman chemistry student. This year's recipient was Justin Redrick McAbee of Charleston, South Carolina.

The Outstanding Student in Organic Chemistry Award was presented to Erin Elizabeth Ferguson of Goosecreek, South Carolina.

The American Chemical Society Division of Analytical Chemistry awards the Undergraduate Award in Analytical Chemistry to an undergraduate student who displays an aptitude for a career in analytical chemistry. This year's award went to Matthew Ryan Branham of Lugoff, SC. Matthew Branham was also the recipient of the Mark Bernard Hardin Prize presented at the College Wide Awards Ceremony as was noted above.

The Outstanding Sophomore Chemistry major award went to Paul Albert Tennant of Kingsport, Tennessee.

Two graduate students, Jeffrey Lucius Harris, Jr., of North Myrtle Beach, South Carolina and Albert Eugene Willis III, of Washington, Georgia, received the Graduate Teaching Assistant awards.

Kefu Fu of Hunan, China and Weijie Huang of Anhui, China were the recipients of the Outstanding Graduate Reseacher Awards. Weijie Huang was also the recipient of the College of Engineering and Science Outstanding Graduate Researcher Award as was noted above.

In addition to awards to chemistry majors, the Department also has many students from other disciplines taking General Chemistry and Organic Chemistry. Students from a variety of disciplines have the opportunity to compete for the awards given for the best students in these courses. This years outstanding student in General Chemistry, Christopher Michael Welch, is a Biological Sciences Major from Campobello, South Carolina. The outstanding student in Introductory Chemistry was Brian Douglas Harvel, who is a Financial Management Major from Aiken, South Carolina.

The Department of Chemistry is grateful to the Lucy Eubanks and Stephen Creager of the Scholarship and Awards Committee for their hard work throughout the year. The Department is also grateful to Patricia John and Joanne Margosian, of our Departmental Staff for their work in making arrangements for the Awards Ceremony and Luncheon.
Michael Mury Receives University Wide Graduate Teaching Assistant Award

Michael Mury received the Clemson University Outstanding Graduate Teaching Assistant Award at the May 11, 2001 Commencement Exercises. He also received the College of Engineering and Science and Department of Chemistry Outstanding Graduate Teaching Assistant Awards and was honored at both the College of Engineering and Science and Chemistry Department Honors and Awards Ceremonies on April 7, 2001.

Michael Mury received a dual degree, i.e. a Bachelors of Science in Chemistry and a Bachelor of Arts in Biology, from the University of Nebraska at Omaha before joining our graduate program in Chemistry in the Fall of 1999. His teaching assistant duties include the Physical Chemistry and General Chemistry Laboratories. Michael states that “Education plays an important role in his life” and has performed research in chemical education as an undergraduate which he presented at the National ACS Meeting in Anaheim California.

Michael is performing his PhD research in Computational Chemistry under the direction of Dr. Stephen Stuart. He is one of the organizers and currently is president of the Graduate Student Organization Chapter in our Chemistry Department. He is an exceptional student has received a number of academic honors which include a Deans Scholarship and University Scholarship here at Clemson University. While an undergraduate at the University of Nebraska he received the Regents Scholarship, Outstanding Freshman Chemistry Award, ACS Outstanding Analytical Chemistry Student, Phi Kappa Phi National Honor Society, Delta Phi Alpha German National Honor Society, Golden Key National Honor Society, and Who’s Who Among Students in American Universities and Colleges.

Weijie Huang Receives Outstanding Graduate Researcher Award

Weijie Huang received the College of Engineering and Science Outstanding Graduate Researcher Award at the College of Engineering and Science Awards Day Ceremonies April 7, 2001. Weijie Huang received her undergraduate degree from the from the Beijing Normal University and a Masters Degree from Xiamen University in Fujian, China before entering our graduate program in Materials Science and Engineering within the Chemistry Department 1999. She is performing her PhD research under the direction of Professor Ya Ping Sun.

Ms Huang is researching the preparation of new highly water soluble pendant carbon nanoparticle structures. Recently she has extended her studies to functionalized carbon nanotubes which can tuned to be soluble in either organic or aqueous solvents. Her research is regarded as timely and exciting because of the broad variety of applications which include chemistry, biology and medicine. Ms Huang has 12 publications in scientific journals, three of which are based on her research at Clemson.

Before entering the Clemson University program, Ms Huang was already the recipient of a number awards which included a 4 year scholarship given to outstanding undergraduate students at Beijing Normal University. She was named the Exemplary Graduate of Beijing City and received the Excellent Education Internship in 1994. She was named as an “Exemplary Student” in 1997 and also received the Lu Jiaxi—Tsai Khi–rui” Scholarship for her MS work at Xiamen University in Fujian, China.

Lisa Coward Honored at Calhoun Honors College Spring Awards Ceremony

Lisa Marie Coward was honored at the Calhoun Honors College Spring Awards Ceremony for graduating with both General Honors and Departmental Honors. Students received General Honors for completing a minimum of 14 hours of honors courses. Departmental Honors are awarded for independent study and research. Lisa completed her independent study and research under the direction of Dr. Jeffrey Appling in “Interactive Software and Molecular Visualization.”

Lisa graduated in May of 2001 with a Bachelor’s Degree in Chemistry and completed her Departmental Honors project in her minor area of Secondary Education. Clemson Chemistry Department recognized her outstanding scholarship by awarding her their 2001 Faculty Award which is given to the outstanding chemistry major. The results of her honors research were first presented at the Calhoun Honors College Research Forum. Following that Lisa completed an additional semester of research and presented her followup findings at the American Chemical Society Meeting in San Francisco.

In addition to her academic endeavors Lisa was a member of the Clemson University Singers who performed at Carnegie Hall. While a student she tutored chemistry for the student athletic enrichment program and during the summer of 2000 worked for the Analytical Chemistry Division with Ethyl Petroleum Additives, Inc. in Richmond Virginia. Following her graduation she participated in a 2001 Summer Advanced Placement Institute for Chemistry Teaching conducted by Eddie Case here at Clemson. She now is teaching Advanced Placement Chemistry at Mauldin High School in Greenville County.
Russell Watson comes into our Chemistry Department through the Schweizerhall Scholarship, sponsored by the Schweizerhall Corporation, a Swiss pharmaceutical firm, in honor of its manufacturing facility at the Donaldson Center in Greenville, SC.

Russell Watson came into our Chemistry Department through participation in a South Carolina Summer Scholars program while Russell was with the South Carolina Governor’s School for the Arts 1996. He entered our undergraduate program as a National Merit Scholar and as a Clemson Student he more then lived up to the high expectations we had for him. Mr. Watson has a nearly perfect academic record at Clemson university and is enrolled in our Calhoun Honors College. The Chemistry Department has recognized his accomplishments by awarding him the Warwick Chemical Foundation Fellowship and our Outstanding Sophomore Chemistry major award.

Russell performs research in X-Ray Diffraction methods which he began as a student in our Summer Scholars program and continued as an undergraduate under the direction Dr. William Pennington. The research ultimately has led to 2 publications in refereed journals and 5 presentations at scientific conferences. The research received the attention of the Distinguished Beckman Professor Harry Gray and Director of the Beckman Institute of the California Institute of Technology during his visit to Clemson. This led to a Summer Research Scholarship for Russell at the California Institute of Technology in Professor Gray’s laboratory during the Summer of 2000. In the Summer of 2001 Mr. Watson was our first student to participate in an exchange program with Taiwan in which he performed research at one of Taiwan’s National Laboratories.

In addition to being an outstanding student and chemistry major Russell is active in our ACS Student Affiliates program being president of our local chapter last year and again this year. He also is a very good musician who plays the trombone. As a High School Senior he obtained a perfect score on the National Latin exam which demonstrates the broad range of talents that he has.

Jennie Atkins Receives DOE Graduate Student Award

Jennie Atkins, PhD candidate in Chemistry, received a 2002 Department of Energy Department of Science Graduate Student Award. The Graduate students receiving this award will attend the 52nd meeting of the Nobel Laureates and Students in Chemistry in Lindau, Germany in July 1-5, 2002. Jennie Atkins is one of 30 students selected from across the nation to receive this award to attend the Nobel Laureates meeting. The faculty of the Department of Chemistry are very pleased that one of their graduate students has been selected for this outstanding honor and offer their congratulations to Ms Atkins.

Jennie Atkins entered our PhD program in Chemistry in August of 1997 after graduating Cum Laude from Wofford College. She is the recipient of a Departmental Graduate Fellowship for 4 years and she expects to graduate with her PhD in December 2002. Jennie Atkins’ PhD research involves electrochemical studies aimed at developing new membrane-electrode assemblies that will make fuel cells technologically and commercially competitive as a power source. During her studies at Clemson Ms Atkins spent 5 months in 2001 in Fachhochschule Trier Umwelt Campus Birkenfeld studying AC Impedance Spectroscopy to Model Polymer Electrolyte Membrane Fuel Cells.

Marshall ‘Sonny’ White (Cont.)

University and the University of Georgia. He lectures on a variety management and technical topics at colleges and universities across the Southeast.

During his long career Dr. White demonstrated a strong commitment to education, and Clemson University. He serves as Board member to the Clemson University Foundation, chaired a Committee for the Commission for the future of Clemson, is Chair of the College of Engineering and Science Advisory Board. He led the effort in Ciba Specialty Chemicals to establish the Ciba Education Foundation, which used its resources, in excess of $5 million, to benefit science and technology education in the Unites States. At Clemson he established the Ciba-Geigy scholarship in Chemistry, and, to honor his friend and former Clemson trustee, Dr. James E. Bostic, Jr., he established a textile scholarship in his name. He was honored in 1999 by the Clemson Alumni Association with the Distinguished Alumni Service Award.

Dr. White continues to be a member of the Benefactors of 1889 Alumni Giving Society and a scholarship member of IPTAY. The Department of Chemistry is proud Dr. ‘Sonny’ White is being honored by the induction into the Thomas Green Clemson Academy of Engineers and Scientists and also expresses for his many contributions which have benefited Clemson University and the Department of Chemistry.
Department and Faculty News

This past year has been one in which the Department has again seen substantial growth in research, scholarship and graduate programs. Our research expenditures from external grants and contracts exceeded $2.5 million. Our previous record was $2.1 million and this is double our research expenditures just 7 years ago. The $2.5 million in research expenditures was made possible by record year of $2.9 million in new money from external grants during the year 1999/2000 and $2.5 million in the year 2000/01. This years 2001/02 new grant awards have already exceeded $2.8 million so we expect this high rate of research expenditure to grow.

Faculty scholarship continues to increase our national visibility. One of the highlights for the year is that Dr. Kenneth Marcus received the Governor’s Award for Excellence in Science. Dr. Melanie Cooper was named Distinguished Alumni Professor and Dr. Dennis Smith was the recipient of the national award, Cottrell Fellowship and Professor Ya Ping Sun has received the University’s highest award for scholarship, the Provost’s Award for Scholarly Achievement. Our graduate student numbers have grown substantially over the past year from about 82 to 93.

R. A. Abramovich. Last year the Department celebrated Professor Rady Abramovich’s 70th Birthday with a symposium that hosted noted scientists from both academia and industry. He continues to serve his profession by serving on the editorial boards of 4 scientific journals. Last year Professor Abramovich presented an invited lecture at the Iba Sina Heterocyclic Congress in Alexandria, Egypt. He presented ACS Tour lectures at the University of Arizona and Los Alamos National Laboratory.

Jeffrey Appling continues to serve as Chair of Judges Committee of the Anderson/Oconee/Pickens Science Fair. Last year Jeff Appling made 11 invited presentations at Colleges, Universities and the American Chemical Society National Meeting in San Francisco. Jeff Appling is currently in the process of writing a General Chemistry Textbook with Brooks/Cole Publishing.

Dev P. Arya was the principal organizer of the 70th Birthday Symposium honoring Professor Abramovich. Being the recipient of the NSF Career Award has made it a great year for Dr. Arya. He continues his collaboration with Dr. Thomas Wagner at the Greenville Hospital Oncology Research Center. He made invited presentations at Emory University and Georgia Institute of Technology and was a participant at the Biogenic Gordon Conference in Andover New Hampshire in June 2000.

Stephen Creager continues his electrochemical research on fuel cells and batteries and also maintains an active program that focuses on long-range electron transfer and biomedical applications of electrochemical sensors and detectors. He is a consultant for Motorola Life Sciences (formerly Clinical Micro Sensors Inc.). His research continues to be very well supported by Federal Grants. As Chairman of the Graduate Student Recruiting committee he has established a recruiting program that is regarded as model for university departments. Last year he made invited presentations at two National Laboratories and Georgia Institute of Technology, as well as at national American Chemical Society and Electrochemical Society meetings. Two of his students, Philip Radford and James J. Summer graduated with PhD degrees in Dec 2000.

Edward Case was awarded the honor of conducting the South Carolina Summer Workshop for high school teachers who will be teaching Advanced Placement Chemistry Courses. Fourteen teachers participated in the workshop.

George Chumanov continues his work on Laser Raman on nanoparticle structures. His work has been funded by NIH since he joined the Chemistry Faculty in August 1999. He has just learned that he will be funded by the EPA for $338,499 for three years to study “Plasmon Sensitized TiO2 Nanoparticles as a Novel Photocatalyst for Solar Applications”.

Melanie Cooper was named Distinguished Alumni Professor of Chemistry for Scholarship and contributions to Chemical Education and Teaching. Melanie is a participant in the American Chemical Society Writing team for the new General Chemistry Course and she is the Chair of the 2002 Gordon Conference on Innovations in College Chemistry Teaching. She continues her research with Environmental Engineering and Science Faculty, Cindy Lee and Alan Eizerman, and has begun a new project on the development and implementation of problem solving software for chemistry.

David Crockett continues his very busy schedule maintaining and supporting over 200 departmental computers and peripheral devices. He continues to be a member of the Campus Technology Support Program, the College Computer Resource Committee and he maintains the web servers and list servers for the South Carolina Section of the American Radio Relay League and the College News Association of the Carolinas. He also serves on the Commercial Design Technology Advisory Committee of the Career and Technology Center in Williamson, SC (Anderson School District #1).

R. Karl Dieter’s research on organocopper chemistry is currently supported by the National Institutes of Health (NIH) and he has just received a National Science Foundation Award (NSF) to study chiral cuprate reagents based upon the first examples of configurationally stable alpha-amino alkylcuprates [J. Am. Chem. Soc. 2001, 123, 5132] developed in his laboratory. Recently, three full papers describing the development of these reagents have been published. His book chapter on “Heteroatom and alpha-Heteroatomalkylcuprates” will appear in March in a monograph devoted to Modern Organocopper Chemistry. He is currently working on a chapter for the “Science of Synthesis” on the chemistry of lithium metal. Struggling against the tenor of the modern world, he has instituted online quizing in the sophomore chemistry course in an effort to encourage the students to read the textbook and to read the appropriate chapter before he lectures on it.

Darryl D. DesMarteau has just returned from a 6 month sabbatical and successfully moving his research group to Research Park CTEL Building. Three of his students Qun Huang, Gregory Shafer and Brian Thomas graduated with a PhD. His research continues to be well supported by both private and federal sources. He is known for his connections with Ausimont and recently received funding from Sematech and Gore Industries.

Dwaine Eubanks is co-editor with Dr. Jerry Bell of the American Chemical Society General Chemistry Curriculum Project. Last year Dwaine and Lucy Eubanks hosted a workshop at Clemson of the American Chemical Society (ACS) writing team and field test teachers for the curriculum project. Last year Dwaine was a keynote speaker at the 7th Chilean National Conference on Chemical Education. Dwaine continues his assessment activities associated with being Director of the ACS Examinations Institute, reviewing proposals for the National Science Foundation (NSF), and frequently serving as a consultant for the ACS College Chemistry Consultants Service.

Lucy Eubanks served as the Chair of the Western Carolinas Section of the American Chemical Society this past year. Lucy Eubanks serves on the American Chemical Society (ACS) writing team for the ACS General Chemistry Curriculum Project. Lucy Eubanks was responsible for the pedagogy and content of the Teacher Training Workshop in General Chemistry for field test teachers of this ACS Curriculum Project. She also continues on the authoring team for Chemistry in Context, the nonmajors ACS curriculum project. Lucy continues to serve as Secretary of the ACS Divisional Officers Caucus, member of the Division of Chemical Education and International Activities Committee in the ACS. She also is the sponsor of international relations between Clemson University and the Metropolitan University of Chile and is a Senior Member of the Advisory Board for the South Carolina Advanced Technological Education Center.

Grant Goojeray completed his first semester teaching the graduate course in Chemical Thermodynamics. He is looking forward to next semester when he will be released from teaching to set up his computational and statistical mechanics research program. He is also very pleased that the space for his research program is finally renovated and ready for him and his students to occupy.

John Huffman continues to maintain a research group of 5 students and 2 postdoctorals with a research budget of approximately $198,000 per year from National Institutes of Health ($165,000) and Novasite Pharmaceuticals ($33,000). He served on the NIH National Institute of Drug Abuse Study Section for Fellowships and
Career Awards until July 2001 and continues to serve as an ad hoc reviewer on special NIH Study Sections. One of his students, Jianzhong Lu, graduated with a PhD.

Shiou-Jyh Hwu. Professor Shiou Jyh Hwu had an extraordinarily busy year directing and managing the National Science Foundation Summer Research Program in Solid State Chemistry. Clemson University is the host institution for the national program this year. At the same time Professor Hwu initiated a new Summer Undergraduate Research Exchange program with Taiwan. Russell Watson one of our students took advantage of this program and spent the Summer of 2001 at National Taiwan University. At the same time Professor Hwu maintains a very active research group of 6 graduate students and one postdoctoral. One of his students, Mutlu Karin graduated in December 2001 with a PhD. Another of his students, John Maloney, graduated with an MS.

John Kaup is managing and teaching our physical chemistry teaching labs and our analytical chemistry teaching labs. He also manages the utilization of all our instruments, including the Mettler Toledo Thermal Analysis equipment, in those labs. This year he was very busy putting in place about $100,000 worth of equipment and instrumentation in those labs. Some of the additions included Wyatt TriStar Static Light Scattering Instrument, Rigaku MiniFlex Benchtop Powder X-Ray Diffractometer, two multi-position Jenway UV-Vis spectrometers, CSC Two Drop Titrations Calorimeter and a DigiBLOC 3000 graphite block digestion system which will be used in conjunction with the JY Horiba ICP-AES system for trace metal analysis of soils and other materials.

Joseph Kolis has taken on new duties as Interim Associate Dean of Research and Graduate Studies for the College of Engineering and Sciences. In addition he still maintains a very active and productive research group of 5 graduate students and 1 postdoctoral. Last year he was the recipient of a Department of Defense Multi-University award through North Carolina State University for $946,234 over a 5 year period. Also last year he was elected Chairman of the Solid State Subdivision of the American Chemical Society. One of his students, Mehtap E. Eanes, graduated with a PhD.

Mariusz Krawiec is busy managing our X-Ray Molecular Structure Facility. This facility solves about 250 crystal structures a year. Last year he participated in the Rietveld Method Short Course to learn to derive structural data from powder diffraction patterns.

Arkady Kholodenko continues his research in theoretical chemistry and polymers. Last Summer by invitation he participated in and made a presentation to a 2 week program at the Isaac Newton Institute of Mathematical Sciences at Cambridge University. He also made presentations at the 13th International Congress on Mathematical Physics and at the Southeast Theoretical Chemistry Conference in Charleston.

Alex Kitaygorodskiy continues to do a superb job operating our Nuclear Magnetic Resonance (NMR) facilities. He is continuing his research collaborations with Professor Shulpin at the Russian Academy of Sciences.

R. Kenneth Marcus, the recipient of the 2001 South Carolina Governor’s Award for Excellence in Science, continues a very active research program in development of glow discharge methods for analytical applications. He has a research group of 8 students and last year he had 2 students, Melissa Dempster and Ritchie C. Eanes, graduate with a PhD. He was recently appointed to the Panel for Chemical Science and Technology under the National Research Council’s Board on Assessment of NIST Programs. Professor Marcus continues to serve on the editorial advisory board of 4 journals, ICP Information Newsletter, Spectrochimica, Part B, Journal of Analytical Atomic Spectroscopy, and Applied Spectroscopy.

William T. Pennington was promoted from Associate Professor to Professor of Chemistry in August 2001. He has 5 graduate students in his research group and this past year one of his students, Rosa Bailey Walsh, graduated with a PhD. Another of his students, Jeffrey Harris, who graduated with an MS, will continue on for a PhD. He continues to direct the Summer Undergraduate Research Program and that program continues to set records in terms of level of participation and interest.

Dvora Perahia continues a research program in polymer Physical Chemistry including the study of ultra thin films of polymers, liquid crystals, and surface studies of materials with specific electronic properties. Her program continues to receive awards of neutron beam time and X-Ray beam time at Argonne National Laboratory and National Institutes of Standards and Technology to perform structural studies on polymer films and interfaces. Recently Dvora was awarded 7 days of spin echo neutron beam time at the National Institute of Standards and Technology. The grants also support computer time, materials and local support while working at the beam facilities.

Dennis Smith once again had an extraordinarily successful year in terms of research and scholarship. His research is funded by 13 research grants with a total value of $1,014,286. His research group consists of 11 graduate students, including three co-advised with Materials Science & Engineering faculty, and two postdoctorals. He was visiting professor at the University of Heidelberg this summer and was awarded early promotion to associate professor in August of 2001. He also received the prestigious Cortrell Scholar Award from Research Corporation and elected as Councillor of the American Chemical Society representing the Division of Polymer Chemistry. One of his students, Erik Nelson, graduated with an MS.

Steven Stuart continues the development of a very strong research program in theoretical and computational chemistry. He presently has a research group of 5 graduate students, 3 research assistants, and one postdoctoral research associate. He recently received a major research grant from the Department of Energy for $359,388. This brings his total external grant funding over $700,000. In addition, he and his wife celebrated the birth of their first child this spring.

Ya-Ping Sun again has had an extraordinarily productive year with a large research group of 12 graduate students, 4 postdoctoral fellows, and 2 undergraduate research assistants. This past year he was a recipient of a Provost’s Award for Excellence in Scholarship. His group has a total research grant support of ~$1,800,000 for the next 3 years. He is also a principal investigator for a large NSF/EPSCoR proposal that is expected to bring over $5,000,000 to Clemson University.

**Luis Echegoyen Installs New ESR Spectrometer**

Luis Echegoyen has installed a new Electron Spin Resonance Spectrometer for study of free radical chemistry. The instrument makes use of a large electromagnet. Lourdes Echegoyen and William Caldwell prepared the room to accommodate the instrument and coordinated the installation of the instrument. This instrument investigates molecular species with unpaired electrons. Such species are often very reactive and have a short lifetime and the ESR instrument can detect them and reveal information on their molecular properties.

The instrument was installed because Professor Echegoyen’s is in need of such instrumentation for his research. However he hopes that the instrument will be used department wide and will expand the research capabilities of the Department. In general the Department has not utilized ESR instrumentation and this instrument represents a major new addition to the Department of Chemistry research infrastructure.
2001

Casey M. Beard graduated with a Bachelors Degree in May 2001. He currently is in the Air Force and working at ICBM Satellites and Missiles in Wichita, Kansas.

Matthew Branham graduated with a Bachelors Degree in May 2001. He currently is a Graduate Student in the Chemistry Department at the University of North Carolina at Chapel Hill.

Michael Capracotta graduated with a Bachelors Degree in May 2001. He currently is a Graduate Student in the Chemistry Department at North Carolina State University in Raleigh.

Shannon Cooke graduated with a Bachelors Degree in May 2001. She currently is a Graduate Student in Chemistry at the University of California in Berkeley.

Mustafa Guzel received his PhD in May 2001. He currently is a Senior Research Scientist with Transtech Pharma, Inc. in High Point, North Carolina 27265.

Ismail Kul graduated with a PhD in August 2001. He currently is visiting assistant professor at Kennesaw State University.

James R. Lee graduated with a Bachelors Degree in May 2001. He currently is at the Dahlgren Naval Service Warfare Center, in Dahlgren, Virginia.

Jason Riggs graduated with a PhD in August 2001. He currently is with Clariant Corporation in Martin, South Carolina.

Paul V. Szlenkik graduated with a Bachelors Degree in May 2001. He is continuing in the PhD program in Clemson Chemistry.

Shelby Taylor graduated with a Bachelors Degree in May 2001. She is continuing in the PhD program in Clemson Chemistry.

Rosa Walsh graduated with a PhD in August 2001. She currently is continuing on a postdoctoral fellowship at the University of South Florida in Tampa, Florida.

Bethany Wells graduated with a Bachelors Degree in May 2001. She is currently with Continental Tire in Charlotte, North Carolina.

Matthew Branham graduated with a Bachelors Degree in May 2001.

2000

Ethan Ballard graduated with a BS in Chemistry in August 2000. He currently is continuing in the chemistry graduate program at Clemson.

Lakesia M. Butler graduated with a BS in Chemistry in December 2000. She currently is an Environmental Scientist with EPA working with the New Chemicals Branch.

Melissa Dempster graduated with a PhD in December 2000. She has been employed for the last year by Shire Laboratories in Bethesda, Maryland.

Jeffrey Harris received his MS in August 2000. He is continuing in the PhD program in Chemistry at Clemson.

Qun Huang graduated with a PhD in December 2000. He has been employed for the last year at Roche Carolina in Florence, South Carolina.

Joshua P. Kearns graduated with a BS in Chemistry in December 2000. He currently is a graduate student in chemistry at the University of California in Berkeley.

John C. Maloney received his MS in Chemistry in August 2000. He is with Michelin Tire in Greenville.

Erik J. Nelson received his MS in Chemistry in August 2000. For the last year he has been with DuPont Polyester in Richmond, Virginia.

Philip T. Radford graduated with a PhD in December 2000 and has been with Milliken Research in Spartanburg, South Carolina for the last year.

Charles R. Sides graduated with a BS in Chemistry in August 2000. He currently is in the Chemistry Graduate Program at the University of Florida.

James J. Sumner graduated with a PhD in December 2000. He currently is on a Postdoctoral in the US Army Lab in Washington, DC.

Justin M. Wright graduated with a PhD in August 2000. He currently is with Merck Chemicals in Rahway, NJ.

2000

Julie Wadford received her MS in Chemistry from Georgia Institute of Technology in 2000. Julie Wadford received her BS in Chemistry from Clemson in 1999.

1999

James Jerome is Senior Research Scientist with Chatterm Chemicals, Inc. in Chattanooga. James received his PhD from Clemson Chemistry in 1997. James and his wife Kristina live in Chattanooga.

1997

Craig Bergwall is Captain in the US Army currently serving as a company commander in the 1st Infantry Division in Germany. Craig Bergwall graduated from Clemson Chemistry with a BS in 1993. He also received an MS in Management from Troy State University in 1997.

Amanda Bulman received a PhD from the University of Virginia in 1998. She currently is a Postdoctoral in the Department of Biochemistry and Biophysics at the University of Pennsylvania School of Medicine.

1996

Edward M. Gouge who is Professor of Chemistry at Presbyterian College has just completed 25 years of service as a faculty member of the Department of Chemistry. Professor Gouge received his PhD from Clemson Chemistry in 1976.

1941

Richard J. Bischoff after graduation served in the US Army from 1941 to 1946. He retired from the Army Reserve as Lieutenant Colonel and work for Mobil Corp in Phosphorus Chemistry. Richard Bischoff received his BS from Clemson Chemistry in 1941. He currently resides in Mt Pleasant, SC.

Deceased.

Fredrick Kinard. We regret to report that Fredrick Kinard, Retired Dean and Professor of the Medical University of South Carolina in Charleston died at age 94 May 28, 2001. Dr. Kinard graduated from Clemson Chemistry with a Bachelors Degree in 1927. He received his MS (1932) and PhD (1933) degrees from the University of Virginia. He later received his MD (1945) degree from University of Tennessee. Dr. Kinard had a long and distinguished career with MUSC that spanned 50 years. He was promoted to Professor in 1953 and became the first Dean of Graduate Studies in 1965. Dr. Kinard retired in 1977. Dr. Kinard was awarded the the Honorary Degree of Doctor of Science in 1999. In 1999 Dr. Kinard attended the Clemson Tiger Golden Class Breakfast and was the only representative from the Class of ’27. He is survived by his wife, Betty B. Kinard, and his daughter and son.
The Retired Chemist’s Club continues to meet on the fourth Tuesday at the Lakeside Holiday Inn. Most of the Club members are retirees of the Clemson University Chemistry Department—Joe Allen, Rudy Abramovitch, Carl Bishop, Muriel Bishop, Farrell Brown, Herman Busch, Jim Fanning, Harvey Hobson, Nick Marullo, Rotie Salley, Arthur Todd. Spouses of faculty members—Doris Allen, Sybil Fanning, Martha Hobson, Eula Salley—make a welcome addition to the group. We feel especially fortunate that spouses of deceased member—Marty Bailey, wife of Roy Bailey and Mary Dean Spencer, wife of Garth Spence—join us. The luncheons give us a chance to share news. Adolph Beyerlein often brings news on current happenings in the Chemistry Department. We hope he continues to attend when he retires as Department Chairman. We also hope our new chairman will attend and continue to update us on happenings in the department.

Although enjoying golf, traveling, gardening, volunteer work and grandchildren are important to most of the retired chemists, likewise many continue with creative, scholarly, academic endeavors. Dr. Joe Allen continues to teach a short course on Radiochemistry at Westinghouse Savannah River Site. Dr. Rudy Abramovitch took advantage of the retirement package that allows Clemson faculty, eligible for retirement, to draw retirement from the state while they continue to teach at the University. Rudy’s wife, Dorota, is still teaching at Anderson College and neither of them is quite ready to decrease their academic involvement. Dr. Carl Bishop and Dr. Muriel Bishop continue to update their successful “Standard and Microscale Experiments in General Chemistry”, published by Brooks/Cole-Tomson Learning (Harcourt-Learning). Numerous colleges and universities have used their manual for over 13 years. It is 800 pages long and has two ancillaries. Muriel uses her 25 years of experience as a feature editor for J. Chem. Ed. to do technical editing on publications and theses for international students. Dr. Farrell Brown wrote a Foreword for a new textbook “Fundamentals of Quantum Chemistry” published by Michael Mueller in early 2001. Farrell and Professor Mueller, an Associate Professor of Chemistry at Rose-Hulman Institute of Technology, became friends while Farrell was Interim Head of the Department at Rose-Hulman in the 1999-2000 academic year. Dr. Jim Fanning published a paper this spring in Inorg. Chim. Acta‡ with four undergraduate chemistry majors as co-authors. Jim and a former student, Dr. Dale Ankers, published another paper in Polyhedron. George Savitsky reads extensively for the discussion group he belongs to at the Unitarian Church. George is also writing poetry. Dr. Jim Spain and his wife, Pat Spain, run their computer software corporation, Electronic Homework Systems, Inc out of their home in Pendleton. Over a period of seven years about 200,000 students at about 200 colleges, including the University of Georgia and the University of Florida, used the software. Jim developed their primary product, ChemSkill Builder (CSB), at Clemson and tested it on freshman students at Clemson, as well as at several other colleges. A new application of CSB is its use in advanced placement classes. A local network version, developed to quickly merge student grades into class files, receives considerable interest, especially by colleges in Texas. McGraw-Hill Book Co. contracted EMi of Atlanta to develop an internet version of CSB, planned for release in fall 2002.

Those of the group who love to travel enjoy hearing about the interesting places the others have visited. Joe and Doris Allen like the West—skiing at Copper Mountain in Colorado and Mt. Bachelor in Oregon, visiting the Great Salt Lake, the 2002 Winter Olympic Site, the Bingham strip copper mine, and the deserts of southwest Arizona and Nevada with family. This is the sixth year for Barnes and Muriel to build houses in Honduras for Habitat for Humanity. In June, Ann and Farrell Brown went with the Rose-Hulman Alumni Association on a 13-day cruise on the Danube from Prague to Budapest and points in between (Germany and Austria. Jim and Pat Spain find that summers in the Upper Peninsula of Michigan near Lake Superior where they own a cottage provide better golfing conditions than Boscobel where they live in the winter. They invite anyone traveling in that area to drop by and visit with them.

Elderhostel programs provide educational adventures that those who have been in the teaching business find very rewarding. This year Doris
Gifts and Endowments

AI ('58) and Lynn Bullington Give Endowed Scholarship

Al Bullington of the Class of '58 and his wife Lynn have given the Department of Chemistry $80,000 for an endowed scholarship. This endowment will attract the best undergraduate students to our Department in a very competitive environment and help us maintain our traditions of academic excellence for years to come. Al Bullington is the Retired President of ABCO Industries in Spartanburg, South Carolina.

The scholarship recipients will be selected on the basis of scholarly achievement, academic potential, leadership, character and the ability to succeed in the field. The Department is very grateful to Al and Lynn Bullington for this gift which will reward worthy students and also facilitate a better academic environment.

Additions to Endowed Scholarships.

The Department is pleased to announce additions to the Dr. J. Harvey Hobson and Dr. James C. Fanning Endowed Scholarship and the Dr H. Garth Spencer Endowed Scholarship. Alumni of the Class of '53 have given $10,000 to the Dr. J. Harvey Hobson and Dr. James C. Fanning Endowed Scholarship in honor of Professor Emeritus Harvey Hobson. Mrs. Mary Dean Spencer, wife of the late H. Garth Spencer, has recently added $6,000 to the Dr. H. Garth Spencer Endowed Scholarship. The Department is very grateful for these gifts. These gifts will not only reward worthy students but honor our retired and deceased faculty who have given so much to our Department and its tradition of excellence in education and scholarship.

Gifts to the Department

Giving to the Chemistry Department during the 2000-2001 academic year by individuals amounted to $130,128 which sets a record for individual giving. Gifts from foundations and corporations including matching gifts programs and totaled $6,325. Below we gratefully acknowledge gifts from our alumni, friends during the period July 2000 to December 2001.

John Adcock  Deborah DuBose  Julian McGill
Luther Anderson  James Edwards  Samuel McManus
Alan Bailey  Thomas Ellison  William McWhorter
Robin Bales  James Fanning  Alfred Merritt
Charles Beach  Julian Friday  Walter Moss
William Beckwith  Joseph Gaddis  Kurt Mueller
Adolph Beyerlein  Richard Gentry  Nina Newcomb
Eugene Bishop  Edward Gouge  John Newton
Ronald Block  Barbara Grooms  Sean O’connor
Henry Boyter  Philip Harris  H. Clyde Odom
Craig Brandon  Min He  Judith Owen
James Braswell  William Hearley  William Paris
Joel Brawley  J. Harvey Hobson  Melissa Paul
Karen Brewer  Charles Howle  Anne Reeve
Amos Bullard  John Huffman  Dale Reynolds
Albert Bullington  Patricia Hull  John Reynolds
Cynthia Burks  Rodney Hunt  John Ridgeway
Walter Castro  James Jerome  David Roof
Amos Bullard  Jamie Johnson  Carl Rudissil
Albert Bullington  Susan Johnson  Henry Rurland
Cynthia Burks  Floyd Jones  James Salley
Walter Castro  Viktor Jonkoff  Charles Shick
Ping-Sun Cheung  Rob Kearns  Mary Dean Spencer
Houn-Lin Chiu  Margaret Kelley  J. Robert Stout
George Cochran  John Kenelly  Larry Taylor
Mark Collins  Stephen Kerr  Kenneth Wagener
David Cooper  Grady Layton  Fitzhugh Wickham
Leo Crosson  Henry Lefort  William Williams
Carolyn Dalton  Clyde Long  James Williamson
Robert Dameron  Roy Majors  James Wilson
Joseph Davis  John Martin  Douglas Wolfe
Darryl Desmarleau  Robert McCray  Ying Wong
Jonathan Diminnie  Mary McFarland  Julie Wood
William Dowler
Corporations which have given to the Department under a matching gifts program are listed below.

- Allied Signal Fdn Inc
- Eli Lilly And Company Fdn
- Owens Corning Fiberglas
- Baxter Allegiance Foundation
- Rjr Nabisco Inc
- Nalco Chemical Co
- Clariant Corporation
- Sara Lee Foundation
- Pharmacia & Upjohn Foundation
- L'oreal Usa

We are indeed pleased that increasing numbers of alumni, friends and faculty are giving to the department because gifts from corporations and philanthropic foundations are largest for universities with a strong alumni giving base. We are particularly pleased that over the past 6 years our friends and alumni have established 7 new endowments. These endowments have helped the enrollment in our undergraduate programs and the Department’s overall competitiveness. We are also very grateful for the generous giving to the Clemson Fund/Chemistry. This fund supports departmental visitors who are seminar speakers or external advisory board members who are volunteering their services. We could not support receptions and forums for the visitors to interact with our faculty and students without the Clemson Fund/Chemistry. We need to receive at least $6,000 annually into this fund to support such activities and your support in providing these funds is very much appreciated.

A listing of the Endowments, Clemson Fund/Chemistry, and a brief description of activities each supports follows is listed below.

**Dr. Al Bullington of the Class of ‘58 and his wife Lynn.** The scholarship recipients will be selected on the basis of academic achievement, academic potential, leadership, character and the ability to succeed in the field.

**Howard L. Hunter Memorial Endowment in Chemistry** was established by Mr. And Mrs. Walter D. Moss, Jr., in memory of Dr. Howard L. Hunter, who was on the chemistry faculty and served for many years as Dean of the College of Liberal Arts and Sciences. This Endowment support activities in the Department of Chemistry which contribute to the enrichment of its educational programs.

**Dr. J. Harvey Hobson and Dr. James C. Fanning Scholarship Endowment** was established by Dr. and Mrs. J. Kirk Sullivan in honor of retired Clemson faculty, Dr. J. Harvey Hobson and Dr. James C. Fanning. This endowment will provide scholarships for undergraduate students majoring in chemistry. Scholarships will be based on academic achievement, financial need, academic potential, leadership, character, and the ability to succeed in the field. Scholarships are renewable if eligibility is maintained.

**The Kirk (’57) and Betty Sullivan Endowed Chemistry Scholarship** is established by Dr. and Mrs. J. Kirk Sullivan. The endowment will provide scholarships to undergraduate students majoring in chemistry. Scholarships will be based on academic achievement, financial need, academic potential, leadership, character, and the ability to succeed in the field. Scholarships are renewable if eligibility is maintained.

**Jacqueline M. and Dale W. Reynolds Chemistry Endowment** was established by Jacqueline M. Reynolds and Dale W. Reynolds and the Exxon Foundation to support programs related to industrial chemistry offered by the Chemistry Department in the College of Engineering and Science.

**Dr. Charles I. Sanders Endowed Scholarship** was established by Lt. Col. Henry I. Sanders (’28) in the memory of his son, Dr. Charles I. Sanders, Class of 1956. The endowment is for scholarships to students majoring in chemistry. Scholarships will be based on academic achievement, academic potential, leadership, character, and the ability to succeed in the field. Scholarships are renewable if eligibility is maintained.

**H. Garth Spencer Endowed Scholarship in Chemistry** was established by Mrs. Mary Dean Spencer in honor of her husband, Dr. H. Garth Spencer, Alumni Distinguished Professor of Chemistry. The Endowment will provide scholarships for undergraduate students majoring in chemistry with a GPR or projected GPR of 3.0 or better. The Scholarships are renewable if eligibility is maintained.

**Clemson Fund/Chemistry.** Supports a variety of departmental activities which includes lectureships for departmental seminars, outreach services, student travel to conferences, outreach services, honors and awards ceremonies, and entertainment of visiting boards who are volunteering services to the Chemistry Department.

You may use the form enclosed with this Newsletter for proper processing, recording and designating your gifts to a particular Endowed fund or the Clemson Fund/Chemistry. You may use the form to make your donation through your VISA or MasterCard account. Make checks payable to Clemson Fund/Chemistry and designate on the check the endowment or fund it is for. Mail your gifts to Clemson Fund, Box 1899, Clemson, SC 29633-1899.

Retired Chemist’s Club (cont.)

and Joe Allen studied the natural wonders and the fishing industry of the coast of Oregon with Elderhostel. Jim and Sybil Fanning went on two educational programs sponsored by Elderhostel—a special Lewis and Clark study trip from St Louis up to North Dakota, and a bus trip visiting several Indian reservations. Carl Bishop and Muriel Bishop studied Spanish with Elderhostel at the International School of Languages in Cuernavaca, Mexico. They also spent a month in China. They compared notes at the Chemistry Christmas drop-in with John and Pat Geldard who had also gone to China this year. Intergenerational Elderhostel tours provide bonding with grandchildren. Joe and Doris Allen explored dinosaur digs and Anasazi relics in Utah with their 6 and 10 year old grandsons. Carl and Muriel Bishop, along with grandson, Zachary, boarded a Trident Nuclear sub at King's Bay, GA, camped on Cumberland Island and spent a day boating in the Okefenokee Swamp. Jim and Sybil Fanning took their grandson to an Intergenerational Elderhostel in Sitka, Alaska.

Harvey and Martha Hobson prefer to visit their children, grandchildren and great grandchildren at the homes of the parents. George and Lucy Savitsky are content for the grandchildren to come visit them. Arthur Todd's grandchildren are in Texas and he hopes they will grow up to be cowboys like their South Carolina gramps.

Then there are the gardeners and farmers. Harvey Hobson pollinates day lilies to produce his own varieties. George Savitsky cultivates around 30 species of ferns. Farrell Bown does extensive landscaping work at University Lutheran Church. Some serious farmers (or cowboys) are Arthur Todd and Herman Busch. Herman says he’s thankful that he retired before the big move from Brackett to Hunter. Recall these fellows kept us straight by running a tight ship in the chemistry storeroom. They would have had the job of moving the chemicals, supplies and keeping up with the inventory. If you want to see the way a happy man lives visit Herman Busch, his dog Abby, his grill mill and other “corn interests” at his log cabin near Walhalla. He says he and his neighbors grind out more conversation than corn. Herman is painting scenery from the Walhalla area using acrylics. Arthur Todd is busier than ever and can’t even take time to get sick. He has honey to harvest from his beehives, calves to deliver (Doctor Todd), cows and calves to protect from coyotes, and hay to harvest.

Rotie Salley still keeps us laughing at all the luncheons. The dining area is wheelchair accessible and his buddies, Arthur Todd and Herman Busch, always help him. Rotie’s reading is supplemented by audio books and he likes to use the computer. Nick Marullo says that diagnostic tests indicate he is free of malignancy from the lymphoma. He says both he and Jenny, his wife, are holding their own. Nick keeps busy with landscaping and repairing his boat, the “SS Italy”. Jim Fanning is progressing very well after his surgery and a blood clot problem. We expect him to be fully recuperated when we meet again in January.
It has been a very busy year for our staff. The increased research expenditures over the last year has increased the load on our staff. This is an indication of how vital our staff are to the success of the university reaching its goals of $100,000,000 of research expenditures per year. The Department of Chemistry is grateful and very proud of their staff who continue to provide the increased needs of our faculty and students as our research, scholarship and service expands.

Currently our staff includes Patricia John, Departmental Administrative assistant, Maxine Blakely, student service specialist, JoAnne Margosian, student service specialist, Susan Smith student service specialist and graduate recruitment, Martha Zglinicki, Business Manager, Colleen Yoder, Accounting and Fiscal Analyst, Mary Standeffer, Administrative Assistant to Darryl DesMarceau, Laura Hupp, Main Stockroom Manager Procurement, Charles Benson, General Chemistry Stockroom manager, Lindsey Sharpe, Organic Stockroom, William Caldwell, Glassblowing and Building Manager, and Don Daugherty, Major Instruments and Mass Spectrometry.

Since the last Newsletter, there were two staff resignations. Paula Welch resigned as the Departmental Data Coordinator in order to pursue private business. Angela Pearson resigned her position as Accountant and Fiscal Analyst II to assume a similar position in the Department of Continuing Education. The Department thanks all these staff for their work and contributions to the Department and wishes them well.

**Chemistry Staff News**

**New Staff Additions**

**Susan Smith** joined the Department in September 2000 to replace Paula Welch. Susan was immediately faced with implementing the new graduate student recruitment program. The program was very successful with the Department having a record recruitment year in 2000/01 with 21 entering graduate students.

**Colleen Yoder** joined the Department in September 2000 to provide accounting services. In addition to providing accounting services for chemistry she also provides accounting services for Civil Engineering, Bioengineering, Dean of the College of Engineering and Science, and the Bioengineering Alliance. She not only provides accounting services for these departments and programs but also makes budget projections.

**Memories from the Past**

Let us know if you recognize some or all of the persons in the group picture of our Chemistry Faculty which is taken during the 1952-53 academic year. Dr. J. Harvey Hobson (1st Row) joined Clemson Chemistry in 1941 and retired after 40 years of service in 1981. J. R. 'Rotie' Salley (2nd Row) joined Clemson Chemistry in 1947 and retired in 1981 after 34 years of service. Both Dr. Harvey Hobson and Rotie Salley live and remain active in the Clemson Area. Dr. Howard Hunter (1st Row) retired from Clemson Chemistry as Dean of the College of Liberal Arts and Sciences and our Chemistry Building, H. L. Hunter Laboratories, is named in his honor.