East Carolina University

DEPARTMENT OF CHEMISTRY

1965–2007

1907-2007
CENTENNIAL

THE DEPARTMENT OF CHEMISTRY

at

East Carolina University

1965–2007

In Celebration of
East Carolina University's
Centennial Year

In Memorium
Chia-yu Li, PhD
Robert C. Lamb, PhD
Grover W. Everett, PhD

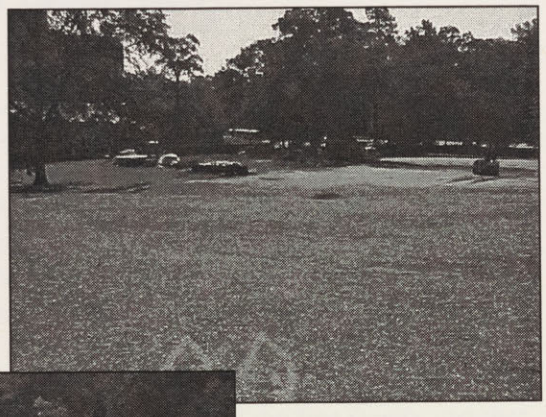
Edited by Keith D. Holmes, Jr., PhD

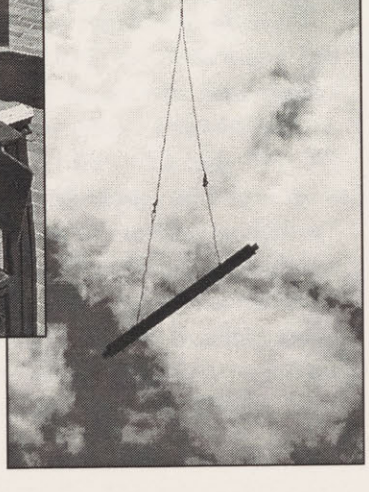
Science and Technology Building completed in 2003.

The Chemistry Department is located on the 3rd, 4th, and 5th floors.

Construction

OF THE SCIENCE AND TECHNOLOGY BUILDING





History

OF THE CHEMISTRY DEPARTMENT

"Genesis"

The Chemistry Department had a humble beginning. It is not certain when the first chemistry class was taught at East Carolina University (ECU), but the first structured chemistry curriculum probably started around the early 1960's. During that period, there was at East Carolina College a Department of Science with Dr. Charles W. Reynolds as the Director. There were four major fields of study within the Department of Science: Biology, Chemistry, Physics, and General Science. Each field of study had a coordinator, and Dr. Grover W. Everett, who started his career at East Carolina University in 1955, was the Chemistry coordinator. Besides Dr. Everett, six other faculty members were also teaching chemistry; Mr. Jack O. Derrick, Dr. Frank W. Eller, Ms. Lucille Garmon, Dr. Joseph N. LeConte, Dr. Arthur Riley Macon, and Dr. Leland Stewart. (Mr. Derrick, who joined East Carolina University in 1946, was probably the first faculty member ever hired to specifically teach chemistry at East Carolina University.) During the 1963-64 academic year, the Department of Science was reorganized as the Division of Science composed of four departments: Biology, Chemistry, Physics, and Science Education. Dr. Reynolds was the overall director of the Division, and Dr. Everett became the director of the Chemistry Department. It was under Dr. Everett, that the first complete program in chemistry for the AB degree was presented in 1964, and in the mid 1960's, the department also started working on a professional degree in chemistry (BS Professional), which would eventually lead to certification by the American Chemical Society.

The Chemistry Home, From Flanagan to Science & Technology Building

The Flanagan Building, which was built in 1939 by President Franklin D. Roosevelt's Public Works Administration, initially housed the Division of Science along with Industrial Arts and Home Economics. In addition, there was an Air Force ROTC shooting range on the attic floor of Flanagan. Home Economics occupied the west wing of Flanagan, and it operated a dining room facility in Room 205 facing the campus mall. It later became the departmental office for Chemistry. Industrial Arts was on the first floor, and the Science Division occupied the rest of the building. Home Economics moved out of Flanagan to a newly completed building (now known as the Rivers Building) around the mid 1960's. Biology and Physics moved to their new facilities (now known as the Howell Science Complex) in the late 1960's, leaving Chemistry, Science Education, and Industrial Arts as the only units remaining in the Flanagan Building.

In the mid 1960's, a south wing was added to the Flanagan Building that provided much needed space for chemistry. From 1969-71, a major renovation was made with the installation of an HVAC system in the east, west, and the front wings of the building. By 1972, the department had a totally "new" look with expanded space for teaching and research along with a new stockroom, a new scientific glassblowing service center, and a new electronics service center. The total square footage area for the Chemistry Department remained at 32,000 square feet from the early 1970's despite a more than three-fold increase in student enrollment. (Given the difficult conditions in the Flanagan Building, the Chemistry Department has been very conscientious in meeting guidelines and regulations for chemical safety and waste disposal. The department has been working with the Office of Environmental Health & Safety to clean up teaching labs and retired faculty members' research labs from the late 1990's.) Note that room numbers cited for the Flanagan Building are no longer valid because the building underwent another major renovation after Chemistry moved out in the summer of 2003. The Flanagan Building was re-opened in the early spring of 2005.

After many years of overuse, the building's facilities were simply antiquated. The infrastructure of the building, including the heating and air-handling systems, was rapidly deteriorating, and the overcrowded labs, especially those in the organic area, looked rather dismal, depressing, and deplorable. Worst of all, the labs were not meeting stringent state and federal safety regulations. In the 1990-91 academic year, ECU hired a consultant firm and developed a campus master plan. Chemistry, along with the School of Industry and Technology, were identified as the most in need of a new facility. This led to the plan of a new Science & Technology Building to house both units. A site bordered by the Bate Building, the Howell Science Complex, the warehouse, and 10th Street was selected for the new building.

In 1997, ECU formed an executive committee to spearhead the building project. The membership included Mr. Bruce Flye, University Architect; Ms. Betty Speir, a member of the Board of Trustees; Dr. Richard D. Ringeisen, Vice Chancellor for Academic Affairs; Dr. Robert Thompson, Director of Planning and Institutional Research; Dr. A. Darryl Davis, Dean of the School of Industry and Technology; and Dr. Chia-yu Li, Chair of Chemistry. Dr. Keats Sparrow, Dean of the College of Arts and Sciences, had been a strong advocate and supporter of a new building for Chemistry. He frequently stated that the building project was the number one priority for the College. In 1998 the State Legislators provided $3 million for the design of the new building and later provided an additional $3.1 million for site preparation. The Building Executive Committee selected an architecture firm, NBBJ of Research Triangle Park headed by Philip Szostak to design the new building. NBBJ in turn hired several sub-contractors for the project. They included: Earl Walls Associates for lab planning, the Sextant Group for multi-media technology; Newcomb and Boyd for mechanical, electrical & plumbing systems; HNTB for civil engineering; Lasater Hopkins for structural engineering; and, Sam Reynolds for site and landscape planning. In the next two years, Chemistry faculty spent hundreds of hours working with Earl Walls on office and lab design, one room at a time. The five-story, 250,000 square foot building was estimated to cost $60 million to build.

Seeking funding for this mega-project became a major challenge for the University. Chancellor Eakin launched a campaign to lobby the legislators for the building, and he invited them to see for themselves the conditions of the Flanagan Building. He would accompany them personally when the news media and legislators were on campus. Throughout the last half of the 1990's, many editorials appeared in the Daily Reflector supporting the Chemistry Department's push for a new building. After many twists and turns, in May 2000 the House and Senate unanimously approved a $3.1 billion Bond Referendum for capital improvements of UNC system schools and community colleges across the state. The vigorous media campaign by UNC officials to convince the general public to vote for the bond resulted in its overwhelming approval in November 2000 by North Carolina voters. (The approval rate was more than 60% state-wide and approximately 80% in Pitt County.) Prior to the passage of the Bond, Chancellor Eakin wisely approved the use of the previously allocated $3.1 million to prepare the site, an action that saved nine months of construction time. On March 8, 2001, ECU Founders' Day, Chancellor Eakin invited UNC President Molly Broad to the campus to break the ground for the new building. The site-preparation project was put out for bids in January 2001, and D. H. Griffin Construction Co. of Raleigh was awarded the contract. Construction of the largest-ever building on the East campus started in May 2001 and was completed in the early summer of 2003. It is fair to say that without Chancellor Eakin's efforts, this building would not have been a reality.

In the spring semester of 2003, Facilities Services conducted a series of meetings with Chemistry faculty and staff discussing the "Big Move." The University hired three different companies to assist with the move -- one company to move chemicals, one company to move office furniture

and equipment, and one company to move precision equipment. Some equipment needed special service to move. For example, ECU hired Varian, the nuclear magnetic resonance (NMR) spectrometer maker, to take down (quench) the two NMR spectrometers by draining liquid nitrogen and liquid helium prior to the move. The Varian technicians recharged the NMR spectrometers and reinstalled them after they were moved to the designated NMR lab on the fifth floor of the new building. The cost of the move, including disassembling, reassembling and installation, was $30,000. In the summer of 2003, the department embarked on the great historical move from the old Flanagan Building to its new home. This was a very complex project involving an organized and orderly move of all the faculty and staff offices, research and teaching labs, chemicals and equipment. Under the simmering summer heat, with sweat running down their faces, necks, and bodies, faculty and staff worked with moving companies day and night to ensure a successful move. Miraculously, the department encountered no major incidents during the move and was able to open for business in the new building days before the new semester started. The Chemistry Department's new home, the five-story state-of-the-art Science & Technology Building, has 250,000 sq. ft. of space and cost $67 million to build. The College of Technology and Computer Science (formerly the School of Industry and Technology) occupies the first two floors. Chemistry occupies the fourth floor, and the third and fifth floors are shared with the Biology Department. The third floor houses the departmental offices, the conference room, the Learning Center, the scientific glassblowing and electronics service centers, a computer lab, a 60-seat "smart" demonstration/classroom, and teaching labs. The fourth floor houses a conference room, an advanced computer lab, faculty offices, mass spectrometry labs, and teaching labs. And, the fifth floor houses a conference room/library, faculty offices, NMR lab, shared-equipment lab, and all the research labs, including a cluster of high-performance computational chemistry research labs. The rectangle-shaped five-story main structure is joined through two bridges with the classroom building which houses two 125-seat "smart" classrooms and two 250-seat "smart" classrooms. Excluding the four big classrooms, Chemistry now has more than 63,000 sq. ft. of space, which is nearly double the space it had in the Flanagan Building.

On Saturday, October 11, 2003, Acting Chancellor William Shelton held a ribbon-cutting and dedication ceremony for the new Science and Technology Building. Among many dignitaries and guests were: UNC President Molly Broad; Mr. Wilson, representing the UNC Board of Governors; Mr. Talton, Chair of the ECU Board of Trustees; Representative Edith Warren; Representative Marian McLawhorn; former Chancellor Eakin, Acting Vice Chancellor James Smith; Dean Keats Sparrow; Dean Ralph Rogers; and, many others. It was indeed a joyful event. Chemistry will probably spend the next few decades in the new building.

Dr. Chia-yu Li was honored with the naming of the Conference Room in the Chemistry Department Office suite in his name. His years of dedicated service to ECU and the Department of Chemistry will not be forgotten.

THE *Sixties*

THE DEPARTMENT IN THE FORMATIVE YEARS

The mid to late 1960's saw a major departmental expansion that coincided with the transition of East Carolina College to a university. Dr. Donald F. Clemens joined the department in 1965. His arrival was followed by Dr. Robert A. Klein, Dr. Jang Kuo, and Dr. Ivie Lee Smith a year later. Because of his research reputation, Dr. Robert C. Lamb, then a chemistry professor at the University of Georgia, was recruited by East Carolina College to chair the department in 1966. Dr. Clemens was chosen by Dr. Lamb as the Assistant Chair. In 1967, seven more faculty members were hired: Dr. Caroline L. Ayers, Dr. Paul Wayne Ayers, Dr. Myron L. Caspar, Dr. Edgar Heckel, Dr. Warren A. McAllister, Dr. Fred M. Parham, and Dr. Susan T. Smith. By August 1967, the department had fifteen faculty members. All except Dr. Everett, Mr. Derrick, and Dr. LeConte were not tenured. During the academic year 1966-67, with a few exceptions, the normal teaching load was 18 contact hours per week on a quarter system. During this period, two faculty members, Dr. Macon and Dr. Eller, resigned from the department.

The department lost three faculty members in 1967-68. Dr. Ivie Lee Smith resigned, Dr. Susan T. Smith moved to Medical Technology, and Dr. Jang Kuo took his own life. The tragic death of Dr. Kuo was a real blow to the department as everyone had anticipated a bright and promising career for him. In their places, three new faculty were hired in 1968: Dr. David C. Lunney, Dr. James E. Hix, Jr. and Dr. William K. H. Hu.

Student Recollections (1965-1968)

Recollections from Keith Holmes

Ms. Lucille Garmon: *Ms. Garmon was an excellent laboratory instructor. She made you think that every experiment you conducted in general chemistry was important to the advancement of science, and you took great pride in your work. Her attitude stimulated students to pursue chemistry.*

Dr. Ivie Lee Smith: *Dr. Smith came from industry and taught Chemistry 413 (advanced analytical chemistry). She taught students how to conduct quantitative laboratory experiments using UV/Visible spectroscopy, IR spectroscopy and other techniques. But probably even more important was that Dr. Smith taught a student how to properly write up an experiment and keep a hard bound laboratory notebook. This direction helped her students immensely when they graduated and went into an industrial setting.*

Dr. Joseph N. LeConte (Mentor and Advisor): *Dr. LeConte was a classical organic chemist who was one of the last of the true 'southern gentlemen'. He was soft spoken and polite, and he didn't push you to 'do it his way.' Rather, he encouraged and let you seek your own course of work. When Dr. LeConte died in 1972, I was honored to have his work with me at Emory University, and I completed that work for my Ph. D. Dissertation.*

"Pipeline to Emory University": *Dr. LeConte also provided mentoring in another way. Because of his undergraduate ties to Emory (as well as being an alumnus and having Chemistry Department ties), Dr. LeConte enabled many East Carolina chemistry graduates to be able to attend graduate school on scholarships and fellowships. The Chemistry Department Library at Emory University contains many dissertations from former East Carolina University graduates.*

"Visit to Texas Gulf Sulfur" (Now PCS Phosphate): *In 1968, the Eastern North Carolina Section of the American Chemical Society met in Aurora, NC, and toured the TGS site. In addition to great hospitality, the TGS personnel showed us around all of the chemical works. This tour included all of the ACS section (and the Student Affiliates) standing inside the bucket of one of the world's largest excavators. That was a pretty impressive day for technology!*

"Chi Beta Phi Float": *In fall of 1967, the honorary science fraternity (including many chemistry students) decided to enter a float in the Homecoming Parade. What better than a beaker with blue water and carbon dioxide being vented out the top of the beaker. Great concept on paper. However, as the float was completed, the supply of aqua colored napkins in all of Greenville's stores was totally depleted! Fortunately, during the parade, the fire extinguishers were put to good use because one of the floats caught fire in the business district and the fire had to be put out immediately.*

Dr. Donald F. Clemens: *It was Dr. Clemens' first year teaching and three students (Anne Brinkley, John (Eddie) Neal, and Keith Holmes) really wanted to impress Dr. Clemens with their study skills. They studied very hard that quarter, but were surprised to find that at the end of the quarter that we had received three B+ grades. No A's were given. Dr. Clemens was a tough professor!*

Recollections from Mr. Len Farias

Remembered Instructors: *I will never forget Mr. Derrick and his picayune ways. He was a good laboratory instructor. Grover Everett also comes to mind. Our professors tried to be mentors for us as well as friends. They did not let the 'friends' part get in the way of still being our instructors. We were truly blessed having instructors who were concerned about our success and encouraged us to put forth our best effort. When we didn't, they knew it and let us know that we could do better. Warren McAllister and Jim Hix come to mind right away."*

Recollections from Dr. Clemens' Family Memoirs

"Dr. Joe LeConte had spent a couple of summers working in the chemistry grad school at UF. He had met Don and had been impressed with him. He had encouraged Don to interview at East Carolina for a teaching job. So, with the car packed to the hilt with kids, all the winter clothes we could fit in, Christmas presents, and oranges, we pulled into Greenville on a beautiful December afternoon. We left all the kids in the car while we met Dr. Grover Everett, department chairman, and toured the Chemistry Department.

The Chemistry Department was in the Flanagan Building and shared the second and third floors of the building with Science Education, Biology, and the Physics departments." "Chemistry was planning to expand by hiring more professors. Dr. Everett offered Don a starting salary of $8,000. This was the best offer yet and we were really impressed with the prospect of future expansion." "The school was small, about 8,000 students, but showed much more potential than the others we were considering. There was talk that someday a medical school would be attached to it. This seemed like a big dream, yet, Dr. Jenkins, the college president, was saying it as though he believed someday it would happen. There were already chemistry classes for the new School of Nursing."

"However, talk of a med school was growing stronger. People in Raleigh and west thought Dr. Jenkins was crazy to talk about a med school when we weren't even a university. So guess what happened in 1968? We became a university! Raleigh still wasn't ready for this. There was much bitterness and political bickering, but Jenkins was determined and we got it!"

Dr. Clemens- On "House Hunting" in Greenville

"We met a realtor the next day. There were no four-bedroom houses for rent in Greenville. We had thought of renting until we got the feel of the town. We saw right away, we would have to buy, and our budget was very low. Everything we looked at was too expensive or too small. We hated to make the 650-mile trip back to Gainesville empty handed. And, we could hardly afford another trip to look. Reluctantly, we were about to leave town the next morning when Don said, "Let's drive through this last neighborhood (Stratford Subdivision- across from the football stadium) and see if there might be a For Sale sign we missed." They had found their home, for $23,000 with a small den with fireplace, a dishwasher, and air conditioning!

During the period between 1968 and 1970, the department had a faculty of fifteen strong with five tenured (Clemens, Derrick, Everett, Lamb and LeConte) and ten not tenured (C. Ayers, W. Ayers, Caspar, Heckel, Hix, Hu, Klein, Lunney, McAllister, and Parham) members. In addition, Dr. Sam N. Pennington was given a joint appointment between the Chemistry Department and the Basic Medical Science Program of the School of Allied Health Professions. New staff positions were also added to the department. In 1970, the department hired Mr. Owen J. Kingsbury as its first scientific glassblower, Mr. Leland Bruce Whitaker as the stockroom manager (Lab Manager I), and Mr. Michael C. Griffins as Electronics Technician II. The department had also expanded its secretarial positions from two full-time to three full-time staff members.

At the close of the decade of the sixties, with the hiring of so many young faculty, there was a major push in research in the department. Using a combination of state and grant funds, the department acquired two pieces of major research equipment, a Hitachi-Perkin-Elmer Model R-20 60 MHz Nuclear Magnetic Resonance (NMR) spectrometer (approximately $44,900) and a Varian-MAT Model CH-4 Mass Spectrometer (approximately $31,000). Both were housed in the basement of the west wing of Flanagan and became the workhorses of faculty research for many years to come. Using the NSF-COSIP (National Science Foundation's College Science Improvement Program) funds from Dr. J. W. Byrd, then Chair of the Physics Department, Dr. Lunney assembled an Electron Spin Resonance spectrometer (approximately $33,000) for chemistry and physics faculty to use. The ESR spectrometer was housed in the Physics Department. At about the same time, Dr. McAllister also started a project to assemble a laser Raman spectrometer from commercial components (approximately $20,000) and completed the project a year later. The department formed an ad hoc committee on equipment acquisition co-chaired by Drs. Lunney and McAllister to acquire equipment from various sources including the Federal Surplus Property Agency in Raleigh. The Committee was able to get some spectacular bargains for the department, from oscilloscopes to infrared and atomic absorption spectrometers. In 1968, the local Union Carbide Company started providing a $2,000 annual gift to support the department's seminar program. Using the money, the department was able to invite outstanding speakers from major PhD schools to give research seminars to faculty and students on campus. With major equipment in place, the stage was set for chemistry faculty to launch significant research projects.

Recollections from Dr. Warren McAllister

"I started in 1967 as it became ECU. The Chemistry Department had been created the previous year with the hiring of Bob Lamb. Don Clemens, Grover Everett, Joe LeConte, and Jack Derrick were the primary interviewers when I came over from Nashville, Tennessee that spring. I have a lot of memories from that time forward. Getting Jim Hix and David Lunney to come for an interview in 1968 was a good

stroke of timing and, of course, the sad time of losing Jang Kuo. Bob Lamb was able to get great support from the administration. Setting up a Masters Program and working on many curriculum changes with so many great colleagues for a successful ACS accreditation bid was truly a high-point for all of us in the early years. The successes of our students at ECU and beyond were a continuous source of satisfaction, reward and rejuvenation. We got to know so many of our students (Chemistry majors, pre-Meds, pre-Dents, and more) outside the classroom with cookouts and ACS Student Affiliate "parties" several times a year. Renovating the Flanagan Building and getting more space was a great experience for many of us. Then there were lawsuits and threatened lawsuits and depositions that wasted everyone's time and energy, frayed the nerves and divided our colleagues."

THE *Seventies*

CHEMISTRY ON THE MOVE

This decade started with the department on the move. The faculty members were young, upbeat, energetic, and full of enthusiasm. Using the equipment acquired in the late sixties, they were actively engaged in research. Twelve of the department's fifteen-member faculty had active external grants totaling over $105,000 in 1970. Most were funded by the NCBST (North Carolina Board of Science and Technology) and the NSF-COSIP. Several faculty members were also collaborating with colleagues off-campus. Dr. Lamb and Dr. Heckel spent the summer of 1973 working as Visiting Professors at the Technical University of Berlin, Germany. Dr. McAllister worked as a research associate at Brown University (Rhode Island) in the summers of 1972 and 1973. Dr. Morrison collaborated with a quantum chemist at the University of Georgia in the summer of 1972. The department's first major purchase at the start of the new decade was a Varian Model EM-300, 30 MHz NMR spectrometer (approximately $6,000) for instructional use. However, due to lack of funds, no major equipment purchases were made in the subsequent years.

Dr. Caroline Ayers was the first to serve as the faculty advisor to a newly established Student Affiliates Chapter of the American Chemical Society (ACS-SA) during the1969-70 academic year. This ECU group became one of the fifty chapters throughout the nation to receive honors and commendation by the ACS Council Committee on Chemical Education.

In 1970, Dr. Parham launched the seminar series for the department. The seminar series, which had been funded by the Union Carbide's annual gift of $2,000 for many years, is the most successful and longest running event in the department. Outside speakers are invited to give research talks on Friday afternoons, and to this date, this format is still being followed. In the early 1970's, department faculty were also very active on university committees and in the Eastern North Carolina Section of the ACS. Dr. Clemens was the first faculty member from the department elected to chair the local section, ACS-ENC. The section was, up to that time, populated by PhD chemists and chemical engineers from the Du Pont's Dacron Research Laboratory in Kinston.

In the 1970-71 academic year, Dr. Heckel, Dr. Klein, and Dr. McAllister were tenured and promoted to associate professorship. In the summer of 1972, Dr. LeConte and Mr. Derrick retired. After stepping down in 1966 as Director of the Department, Dr. Everett remained on the faculty as a full professor until he retired in 1978 after twenty-three years of service. Dr. Everett passed away one year later. He was 66 years old at the time of his death. The department added one new assistant professor, Dr. Robert C. Morrison, in the fall of 1972. Prior to joining the department, Dr. Morrison, a theoretical chemist, had been working for two years as Systems Analyst in the ECU Computer Center.

The academic year 1972-73 was not a good year for the department. Dr. K. H. Hu, who was denied tenure, filed a lawsuit against Dr. Lamb and ECU, charging discrimination. Although the lawsuit ended in District Judge's ruling that the plaintiff's motion for an injunction be denied, it had inflicted a heavy toll on the department. Upon the release of Dr. Hu, Dr. Chia-yu Li, an analytical chemist, was hired to join the department in the fall of 1973. In 1979, Dr. Heckel resigned from the department and returned to Germany, his native land, to take a position in the environmental science area. Also, Mr. William H. Dawson III was hired in June 1973 to replace Mr. Griffins in

the position of Electronics Technician II. In the subsequent year, four faculty members, Drs. C. Ayers, W. Ayers, Hix, and Lunney, were granted tenure and promoted to Associate Professors.

The scholarly activities (as measured by the number of publications and the amount of external grant funding) in the department declined from the early 1970's to around the mid 1970's because of three factors. First, there was an increase in class sizes and teaching loads without a corresponding increase in faculty positions and operating budgets. (A dramatic 30% jump in service course enrollments was observed between the fall quarter of 1973 and the fall quarter of 1974.). Second, it became increasingly more difficult to obtain external funding, especially federal grants. The days of abundant post-Sputnik era federal funding were gone. Third, there was a decline in graduate student enrollment due to cut backs in the number of teaching assistantships. (There were six MS theses completed in 1971-72 , four in 1974-75, but none in 1975-76, and there were only two each in the remaining years of the decade.) Furthermore, the department's funding had been eroded by the worsening economy in the state coupled with inflation and the energy crisis.

Starting around 1973, a new initiative was launched in the department. The initiative called for developing a broad spectrum of expertise in the interfacing of minicomputers with chemical instruments. In 1974, a core of five faculty members (Drs. Hix, Li, Lunney, McAllister, and Morrison) was sent to Virginia Tech to attend Professor Raymond Dessy's short course on computer interfacing. To support the new endeavor, the department purchased a Hewlett Packard 2100A minicomputer along with a HP 7901 Disc Drive (with a 1.2 million 16-bit word storage capacity). The purchase of HP 2100A started a long tradition in the department for being at the forefront of computer technology at East Carolina University.

Drs. Hix, Lunney, McAllister, and Morrison were a four-member team of ECU Chemistry Faculty who computer-automated a margarine-making process for a margarine factory in Cincinnati, OH in 1974. Dr. Hix programmed an Altair microcomputer to simulate the factory while software was being developed and debugged on the Hewlett-Packard minicomputer.

Recollections from Dr. Hix

"One fall day (a Friday, I believe) in the very early 1970's, several graduate students and upper-class majors decided to pull a prank on Dr. David Lunney. Dr. Lunney was very well known for his little blue sports car that he drove at the time. On this particular Friday afternoon, the students found that the vent window was open on his sports car, and someone got the idea that it would be neat to stuff his car full with wadded up newspapers. I have no idea just where they found so much newspaper, but a "paper brigade" soon formed and after about a half hour the car was packed to the brim. Unfortunately, the timing of this prank was not the best, for earlier in the day, a civil rights group had held a rally in the football stadium. This had brought numerous "out of town" law officers including state police, SBI, etc into town, and they had been discretely out of sight scattered about town along with ECU's, Greenville's, and Pitt County's finest. Needless to say, they were all on a rather high level of alert.

About the time the students were inserting the last piece of paper, all hell broke loose! Sirens went off everywhere, and law enforcement like you wouldn't believe descended on the parking lot behind Flanagan Building. Needless to say, the students beat a hasty retreat into the Flanagan Building and were not apprehended. A number of us, students and faculty alike, were alerted by all the commotion and took up observation posts on the balconies of Flanagan, where we watched the law carefully open Dave's car and,

piece by piece, remove every single sheet of wadded up paper that had been inserted so carefully through the window. After emptying the car, and finding no bombs or incendiary devices, "The Law" carefully packed up all the paper and disappeared with it. In one way the timing had been correct, for Dr. Lunney was teaching a lab that afternoon, and knew absolutely nothing about what was going on in the parking lot. In fact we had great difficulty convincing him until he noticed that some of the clutter that he had left in the car was gone as well. A number of us tried to talk Dr. Lunney into calling Campus Security, and reporting the theft of "papers" from his car, but he was intelligent enough to let well enough alone, and just enjoy having his car "cleaned" for free.

Another story from our early days involves the resourcefulness of some of our faculty in providing laboratory supplies considering our very meager budget. With the renovation of the Flanagan Building in the late 60's and early 70's, we had some major "stocking" problems since our usable teaching lab space had almost tripled. We needed desiccators for the Freshman Labs, and looking in the Sergeant or Fisher catalogs was out of the question. Dr. Caroline Ayers, Dr. Warren McAllister and Dr. Donald Clemens came up with the idea that short/fat quart peanut butter jars could be fabricated into desiccators by simply inserting a piece or wire gauze (which for some reason we had plenty of) with appropriate holes cut for crucibles. I think Dr. Ayers was the one who contacted one of the "Peanut Butter" companies to see where they got their jars, and as fate would have it, they liked the idea and as a matter of PR they offered to provide us with the necessary jars. Dr. Ayers told them that we needed about 500 jars and they said that would be no problem and that they would ship them to us shortly. Well, somewhere in the train of communications, the "order" got scrambled, and when the trucks arrived about a week or two later, 500 cases of "Peanut Butter Jars" were unloaded instead of 500 jars. We put cases in the halls, in offices, in labs, anywhere there was space to be found. As I recall, when I retired approximately 30 years later, I think we were still using those jars, not just for desiccators, but to hold all kinds of nuts & bolts and small items in the stockroom. (And they are still being used today!)

By the end of the 1974-75 academic year, the faculty had approved a first-ever departmental code and under the new code Dr. P. Wayne Ayers was elected Chair of the Executive Committee. In the previous year, he was elected to chair the campus-wide Pre-medical and Pre-dental Advisory Committee. Also, he was instrumental in getting a new chapter of Alpha Epsilon Delta, the pre-medical honor society established at ECU. In 1975-76, faculty spent uncountable hours revising courses and curricula for a change over to the semester system starting the fall of 1977.

Dr. Robert Lamb took a leave of absence from the chairmanship at the end of 1975. Dr. Donald F. Clemens, who had been for many years as Assistant Chair to Dr. Lamb, was chosen by the university administration to lead the department as Acting Chair starting in January 1976. The initial and rapid growth of the department in the 60's can be attributed to Dr. Lamb's efforts and dedication. Certainly, he had laid a solid foundation for the department to continue to build on.

In the mid seventies, the State was still experiencing financial difficulties. This had impacted negatively on the department's ability to acquire new equipment and needed resources for teaching and research, but with continued growth in undergraduate enrollment at ECU, the situation started to turn around after the mid seventies. The growth in chemistry enrollment was probably due, in part, to the establishment of a new four-year medical school at ECU. More graduate teaching assistantship money also became available resulting in an increase in the number of graduate students. A Chair Search committee was in action during the 1976-77 academic year. Dr. Angelo A. Volpe, then a professor and polymer chemist at Stevens Institute of Technology, was appointed

to Chair the department starting in August 1977. Dr. Volpe skillfully and quickly built a good rapport with faculty in the department and with various organizations in the university, and this harmonious relationship helped the department to move forward.

The level of scholarly activity continued to pick up under Dr. Volpe from 1977-80. Examples include: Dr. Heckel's research grant award from the UNC Sea Grant College program; $19,150, Dr. Clemens' grant award by Texasgulf of $2,757; Drs. Morrison and Lunney's research grant of over $110,000 by the Bureau of Education for the Handicapped (HEW) to develop microcomputer-assisted laboratory instrumentation for visually handicapped chemistry students; and, Drs. Volpe and Byrd's (Physics) NSF-CAUSE grant of over $235,000. On the teaching front, Dr. Caroline Ayers successfully applied the Personalized System of Instruction (PSI) method to General Chemistry 64, 65, and 66. In 1978-79, she was the recipient of a research grant ($5,967) from the Exxon Education Foundation – Impact program to develop a Guided Design Program in Physical Chemistry.

In 1978-79, Dr. McAllister resigned from the department to take a managerial/research position at Burroughs Wellcome Co., then located in Greenville. In his place, Dr. Evans, an inorganic chemist who was teaching at State University of New York – College at Fredonia, was hired in 1979. In the same year, a new staff member, Ms. Kathryn Kittrell was hired as Office Assistant III. By the end of 1979, the department had seven full professors, Drs. Caspar, Clemens, Heckel, Lamb, Lunney, Parham, and Volpe; seven associate professors, Drs. C. Ayers, W. Ayers, Evans, Hix, Klein, Li, and Morrison; one Visiting Assistant Professor, Dr. Betty E. Marie Moyers; and two lecturers, Ms. Barbara Andrews, and Ms. Edith Rand. Ms. Rand, who was hired in 1976, later became the founder of the Chemistry Learning Center.

THE GO-GO *Eighties*

Dr. Volpe's administrative ability and talents were quickly recognized by the Administration, and he was selected to become the Dean of College of Arts and Sciences in 1980 after less than three years as the department chair. Dr. Fred M. Parham was appointed as Acting Chair to succeed Dr. Volpe and stayed in this position until 1981. Under Dr. Parham, there was a dramatic increase in external funding, from over $309,000 in the previous year to nearly $500,000 in 1980-81. Among many accomplishments, Dr. Parham was the first person to introduce word-processing to the department office by borrowing a computer from the research group of Dr. Lunney and Dr. Morrison. Since then, the heyday of typewriters was forever gone.

There were relatively few changes in the faculty makeup during the decade of the 80's. The department maintained fourteen to fifteen tenure-track positions in the 80's. Faculty members who were hired in the 60's continued to make significant contributions to the department in the 80's. In this decade, there were four new hires, Dr. Frank Etzler in 1980, Dr. Phillip A. Zoretic in 1981, Dr. Paul J. Gemperline in 1982, and Dr. Art A. Rodriguez in 1987. The only non-secretarial staff member hired in the 80's was Mr. Christopher Newton, who joined the department to fill a newly created Laboratory Manager II position in 1980.

Dr. Etzler, a physical chemist, taught at Western Michigan University before coming to East Carolina in Dr. Heckel's vacated position and left the department without tenure at the end of the 1985-86. A year later, Dr. Rodriguez, a physical chemist with specialty in relaxation mechanism using nuclear magnetic resonance spectroscopy was hired in Dr. Etzler's position.

Dr. Phillip A. Zoretic, a natural product synthetic chemist, was recruited from the University of Southeastern Massachusetts to chair the department in 1981. Dr. Zoretic brought with him an NIH grant (over $38,000) and a grant from Massachusetts Lions Eye Fund ($15,000). Dr. Zoretic's chairmanship lasted two years.

Dr. Caroline Ayers was appointed initially in 1983 as Acting Chair and one year later as Chair to succeed Dr. Zoretic. Prior to her appointment as Chair of the department, she was elected as Chair of the Faculty by the Faculty Senate for 1982-83. Her popularity on the campus was reminiscent of her predecessor, Dr. Volpe. Dr. Caroline Ayers was quickly able to restructure the department and its budget. Office policies and procedures were established. Under her administration, the daily operation of the department was conducted in an orderly and meticulous manner. Faculty members genuinely appreciated her administrative style, her openness, her willingness to listen to faculty's problems and her ability to resolve difficulties. She was also easily accessible, and faculty felt comfortable talking to her. After five years as Chair, Dr. Caroline Ayers stepped down to return to teaching full-time. Dr. Chia-yu Li was elected as Chair by the faculty and appointed in August 1988 by Dr. Eugene Ryan, Dean of the College of Arts and Sciences, to succeed Dr. Caroline Ayers. Following Dr. Ayer's practice, Dr. Li did not appoint an assistant chair. Instead, he appointed Dr. James E. Hix as Director of Undergraduate Studies, and Dr. Paul J. Gemperline, who was also the elected chair of the Graduate Committee in 1988, as the Director of Graduate Studies.

Remembrance of Dr. Li by Mr. Jeff Rorer:

"Back in the summer of 1992 during the first week of freshman orientation, the Chem 1150/1151 sections were all filled. I talked with Dr. Li and he granted me a Special Add. He asked how many more people would be needing a Special Add, and I indicated that there would be many more since this was just the first week of orientation. This was my first interaction with Dr Li and the first clue that the Chemistry Department was growing rapidly."

Dr. Gemperline had been hired by the department in 1982, when he just finished his PhD work at Cleveland State University. He was tenured and promoted to Associate Professor in 1988. In 1982, Dr. Gemperline was only given a modest amount of start-up money, including $2,100 from the Faculty Senate to launch his research at East Carolina University. In two short years, his work caught the attention of the Burroughs Wellcome Co. in Greenville and received the company's grant support of $24,500 to conduct a project using factor analysis, a technique in chemometrics. This was an area of research that was new to Dr. Gemperline. In the same year, he received a second grant from the ACS-Petroleum Research Fund (PRF) in an amount of $15,000. From that point on his research took off. Within the decade of 80's, he was able to amass over $218,000 in grant funds from industry. It is most remarkable that Dr. Gemperline was able to pick a brand new field - chemometrics - in which he had no previous background, and develop it into a budding discipline. He became one of the youngest, if not the youngest, premier researchers in chemometrics in the world. To this date, the international community knows East Carolina University through Dr. Gemperline.

The hiring of Dr. Gemperline and Dr. Rodriguez proved to be the wisest thing the department did in the 80's. Dr. Gemperline's accomplishments in chemometrics have garnered worldwide recognition, and Dr. Rodriguez has kept the department at the forefront of the NMR technology.

The second half of the 80's saw a dramatic growth of the Chemistry Learning Center. Ms. Edith Rand single-handedly built up the Learning Center in 1986 by soliciting funds and developing computer software for use by students. The Center was originally located in Flanagan 215, which was converted from a classroom. In 1989, it was moved to Flanagan 206, a room that the department traded with the School of Industry and Technology. The Center grew and flourished since then, recording as many as 10,000 student-visits a semester. Besides the Learning Center, Ms. Rand, with help from Dr. Klein and Dr. Lamb, was instrumental in developing the chemistry curriculum sequence, Chem 1120/1121 (Basic, General, and Organic Chemistry and lab) and Chem 2620/2621 (Basic Biochemistry and lab) taken mostly by nursing and Allied Health Sciences students.

During the decade of the eighties, the bulk of the external funding received by Chemistry faculty went to support the projects of the Science Institute for the Disabled (SID), which was located in Flanagan 316. Dr. Lunney was founder and Director of SID, and Dr. Morrison served as the co-director. The projects conducted by the Lunney-Morrison team included micro-computer assisted instruction for disabled chemistry students and scientists, talking computers, functional group analysis of infrared spectra using auditory pattern recognition, high-tech aids for disabled science students, auditory presentation of multivariate data, and many others. Between 1980 and 1989, these ECU researchers were awarded more than $1 million from the NSF, the Bureau of Education

for the Handicapped, and other agencies. Their work attracted national attention and put ECU on the map.

From 1978 – 1988, Drs. Morrison and Lunney co-directed a team at ECU to design and build a prototype of a talking microcomputer as an educational tool for blind scientists in chemistry laboratories. The prototype had three microprocessors with internally developed interprocessor communication. At one time, there were about 15 members in the group including students, research associates, and externally funded support staff. Drs. Morrison and Lunney organized and established the Science Institute for the Disabled at ECU to extend educational opportunities to disabled students in secondary schools in eastern NC. The Institute was directed by Dr. Lunney until he retired in the 1990's.

In 1988, Drs. Morrison and Lunney received the Pitt County Distinguished Service Award from the Governor's Advocacy Council for Persons with Disabilities. This project was highlighted as the cover story, "The Sound of Data" in in the June 1985 issue of Science News. It was also covered in *Chemical and Engineering News*, the *Toronto Globe and Mail* (a Canadian newspaper), the *New Scientist* (a British publication), the *Christian Science Monitor*, and a number of newspapers around the country. A radio station in Oregon played their music tunes of the infrared spectra of acetic acid, acetone, ethanol, and other compounds. The station called for several years asking for new tunes.

Other faculty in the department also received sizable external funding in the eighties. In 1980-81, Drs. Clemens, Evans, and Brooks M. Whitehurst (TexasGulf, now PCS Phosphate), received a grant of $40,000 from NC Energy Institute to study the use of peat as fuel. In the same year Drs. Evans, Li, and Parham received $23,800 from the North Carolina Board of Science and Technology to purchase a Varian E-360 60 MHz NMR spectrometer for the department. Under the NSF College Science Instrumentation Program, Dr. Li received $4,300 in 1980 and $10,600 in 1987 to purchase spectroscopic and electrochemical equipment. Both grants were matched by ECU. In 1982-83, Dr. P. Wayne Ayers was awarded $3,500 from Abbott Laboratories and Belk-Tyler Foundation to sponsor the physicians session at the Epilepsy Symposium. Dr. Caroline Ayers was awarded a Title II grant in 1982 from UNC Math/Science Education Network to support her research in chemical education. In 1989-90, Dr. Rodriguez was awarded nearly $13,000 from the North Carolina Board of Science and Technology to engage in Nuclear Magnetic Resonance relaxation studies. Dr. Zoretic received two awards ($20,000 each) from the ACS-PRF for his natural products synthesis research.

In this decade, using an innovative purchasing arrangement (e.g. combining the equipment fund at the end of one fiscal year with the equipment fund at the beginning of the next fiscal year) the department was able to purchase some major equipment. The first Analect 6160 Fourier-Transform Infrared Spectrometer (approximately $20,000) was acquired in 1984. An HP Gas Chromatography/Mass Spectrometry (GC/MS) system was acquired (approximately $70,000) in the mid 1980's. In 1988-89, Dr. Evans was awarded an instrument fund of nearly $70,000 from the Hewlett Packard Co. to purchase an infrared detector for the GC/MS system. Using the scientific equipment appropriation and money borrowed from the other units, a Varian Gemini 200 MHz superconducting NMR spectrometer (approximately $114,000) was purchased in 1987. The purchase of this equipment coincided with the hiring of Dr. Rodriguez and the spectrometer became the workhorse for his research. In addition, Dr. Rodriguez trained countless NMR spectrometer users with this new equipment. The entire department also benefited from the new

spectrometer as it was indispensable to modern day chemists who needed to acquire structural information for their molecules.

In terms of scholarly activities, faculty published at least four journal articles per year with a peak of fourteen articles in 1980-81 and another peak of ten articles in 1984-85. Faculty presented on the average eighteen papers at professional meetings during the ten-year period with a high of 29 papers in 1984-85.

In the teaching and advising area, organic chemistry faculty, including Dr. W. Ayers, Dr. Caspar, Dr. Klein, Dr. Lamb, and Dr. Parham, continued to make improvements in the Chem 2750 (Organic Chemistry I) and Chem 2760 (Organic Chemistry II) sequence. Dr. Caspar was the faculty member who introduced computer-assisted instruction in teaching organic chemistry, and Dr. C. Ayers applied Guided Design as a method of instruction in the one-semester physical chemistry course. New courses implemented in this period included Chem 1163, Computer Techniques in Chemistry, developed by Dr. Hix, and Chem 6520, Teaching Advanced Placed Chemistry developed by Dr. C. Ayers. As the chair of the pre-medical and pre-dental advisory committee, Dr. Wayne Ayers provided advising service to hundreds of students each year. He was also very active in serving the offices of AED (Alpha Epsilon Delta), SAAHP (Southeastern Association of Advisors for the Health Professions), NAAHP (National Association of Advisors for the Health Professions), and others.

It was during this period (1984-85) that a new Unit Code was created and approved.

THE *Nineties*

THE PASSING OF THE TORCH

Perhaps, the most significant event in the 1990's was a large turnover of faculty due to retirements. Dr. Lamb retired in December 1990, the first in the department since the 1970's. Four years later, in December 1994, Dr. Clemens retired. This was followed by Dr. Wayne Ayers, Dr. Robert Klein, and Dr. Lunney, all retiring in July 1997. Dr. Hix took a phased-retirement option at the end of the 1997-98 academic year that allowed him to work half-time for three years until May 2001. During the three-year period, he taught one class and continued serving as the department's Director of Undergraduate Studies. Dr. Caspar and Ms. Rand retired in December 1998 and July 1999, respectively. Dr. Caroline Ayers, having advanced to the position of Associate Vice Chancellor for Academic Affairs, retired from ECU in December 1999. All in all, nine faculty members, or more than half of the department faculty, retired between 1990 and 1999.

A stroke immobilized Mr. Owen J. Kingsbury, the department's first scientific glassblower, in the summer of 1995, and he died the following year the at age 68. Mr. Joseph Walas, a scientific glassblower with nearly 30 years of professional experience, joined the department in November 1996. Like Mr. Kingsbury, he was also a former President of the American Scientific Glassblowing Society. After ten years as Office Assistant IV, Ms. Mary Hawkins resigned to take a position in the Medical School in December 1999. Ms. Rebecca Brady was hired in 1998 as Office Assistant III and was promoted to Ms. Hawkins' position in January 2000, but she resigned in November 2000 to work for the School of Nursing. Ms. Gwendolyn Williams was hired to replace Ms. Brady in December 2000, Ms. Christie Martin was hired in March 2000 as Office Assistant III. By the end of the 1990's the department maintained a staff of seven, three office assistants, one lab manager, one stockroom manager, one scientific glassblower, and one electronics technician.

Dr. Lamb had been in poor health for years and passed away on January 16, 2000, at age 71. The department was saddened by his death. His contributions to building the department during his tenure as the second Chair of the department, 1966-75, were recognized in the form of an endowed lectureship. In 1990, the Lamb Lectureship was established by donations from his family, friends, and colleagues initially to commemorate his retirement. It has been used to support the chemistry seminar series to this date. When the annual $2,000 seminar fund initially given to the department by Union Carbide, and later by the Eveready Battery Co. was terminated in the late 1980's, the Lamb Lecture endowment afforded continued support for the department's seminar series.

In the 1990's the department was busy filling positions created by faculty retirements. In addition, the department had two new tenure-track positions and two new permanent fixed-term positions to fill. They were given by the Administration due to the large enrollment increase in chemistry classes (enrollment doubled between the late 1980's and the mid 1990's). By the mid 1990's the department had a total of nineteen permanent positions -- seventeen tenure-track and two fixed-term. The permanent fixed-term positions were increased to four in 2000. In the 1990's, a total of thirty hires were made by the department, a number equal to all of the previous hires from the 1950's to the 1980's combined.

Efforts to recruit star candidates in the field were hampered by the lack of adequate start-up packages. A few institutions in other states were able to attract accomplished researchers with offers

of more than $100,000 in start-up funds and an environment to do cutting-edge research. With the help of the Administration, the department was able to provide (on average) $50,000 start-up funding for each new tenure-track faculty member who required a "wet" research lab. In addition, the department had to reallocate regular annual operating budget items (around $150,000) to offset the differences. This meant that the department had to tighten its belt from year to year to help young faculty members launch their careers at East Carolina University. Given all the difficulties mentioned, it is a real blessing that the department has been able to recruit fine and talented faculty members to ECU.

Dr. William Church, a NIH bioanalytical chemist at the Salk Institute, and a visiting Assistant Professor with Trinity College, Connecticut, was the first tenure-track faculty member hired in the 1990's. With only two analytical faculty members (Drs. Gemperline and Li), the department was happy to have a third analytical chemist on board. Dr. Church joined the department in 1990, but unfortunately, he departed to return to Trinity in 1994 when his re-appointment was denied.

Dr. Brian Love, an organic chemist who was teaching at Auburn, and Dr. Andrew L. Sargent, a theoretical inorganic chemist who was doing post-doctoral research at the University of Minnesota, joined the department in 1994. They were granted tenure and promoted to Associate Professor in 2000. In 1994, Mr. William C. Lewis, Dr. Irene H. Gerow, and Dr. Orville Day were also hired into temporary fixed-term positions.

Dr. Love has been able to attract more than $58,000 external funding from Research Corporation, DuPont, and the ACS-PRF (Petroleum Research Fund) to support his research on β-carboline chemistry and chiral chemistry. He has been one of the best teachers in the department, receiving two university teaching awards in 1999: The Alumni Teaching Award, and the Board of Governors Distinguished Professor for Teaching Award. He was also instrumental in upgrading the department's organic and undergraduate student seminar programs.

Recollections from Dr. Brian Love:

"In December of 1997 we were conducting a search for an organic chemist, and as part of the interview, four of us (George Evans, Chia-yu Li, the candidate, and myself) were going out to lunch. As I had parked the closest to campus that day, I was the "designated driver." Since we were trying to be as hospitable as possible, we offered the front seat to our candidate, which unfortunately meant that Drs. Evans and Li were stuck in the none-too-roomy back seat of my '74 Camaro, more or less with their knees in their noses.

The suspension system on the car wasn't the greatest at that point either, so every bump we went over elicited groans and then laughter from the back seat. (Who knows— this may have been a contributing factor to Dr. Evans' later knee surgery—sorry, George!). In any case, the candidate said he couldn't believe that they were being so good-natured and laughing about the whole situation, further adding that he could never imagine his own department chair being cramped in the back seat of a car and taking it with good humor. For the candidate, it was an illustration of the camaraderie and humor of the department— for us, it was just another bumpy ride.

I arrived at ECU in the fall of 1994 in advance of modern telecommunications. Most of the faculty office phones in Flanagan at that time were "party lines" — the same phone line was shared by more than one

faculty member. In my case, I had the same phone number as Fred Parham, whose office was about three doors down the hall from mine. When I'd get a call for him, I would have to walk (or shout) down the hall to let him know the phone was for him, and naturally, he would do the same for me."

Dr. Sargent was awarded more than 5,000 hours of North Carolina Supercomputer time equivalent to nearly $1.9 million dollars. He was also the recipient of a $40,000 ACS-PRF research grant. He has been invited to speak at ACS national meetings, symposia, and seminars at PhD schools and was instrumental in initiating the department's undergraduate teaching assistantship program and in revamping the graduate seminar course.

In 1995, Dr. Geoffrey Barker, who had just completed his PhD in analytical chemistry at SUNY-Binghamton, was hired into Dr. Church's position, but he resigned from the department in December 1996 to take a lucrative industrial position in California. In the same year, Dr. John W. Sibert, IV, an inorganic chemist who was doing post-doctoral research at Northwestern, joined the department. His research on a new class of macrocycles attracted a large group of undergraduate and graduate students to work for him. He was also applying for patents for his discoveries of potential anti-cancer chelating agents. However, he chose to resign from ECU to take a position with the University of Texas at Dallas in the summer of 2000. At the time of his departure, he was awarded the 2000 Board of Governors' Distinguished Professor for Teaching Award.

In 1997, Dr. Yu Yang, who was doing post-doctoral research at the Energy and Environmental Research Center, University of North Dakota, became the third analytical chemist to join the department. Dr. Yang's research on subcritical water extraction and chromatography took off quickly at ECU. He was awarded two Research Corporation research grants (approximately $80,000), a first in the department, and was the sole national recipient of the 1999 Starter Grant Award ($20,000) from the Society for Analytical Chemists of Pittsburgh.

In August 1998, two more tenure-track faculty members were recruited to the department, Dr. William "Toby" Allen, an organic post-doctoral chemist at University of Texas at Austin, and Dr. Nathan R. Brandstater, a UCLA educated physical chemist who had been teaching at Occidental College, California. Two years later, Dr. Brandstater resigned from the department to pursue a non-teaching career in California. In 1999-2000, five new fixed-term faculty members, Drs. Robert Hammond, Anthony Hayford, Valislava Kariavanova, Robert McIntyre, and Shaun Schmidt, were hired to fill positions vacated by retired faculty.

Faculty members hired in the 1990's were not the only ones who were successful in securing external funding and in receiving recognition. By the time of his retirement in 1997, Dr. Lunney in collaboration with Dr. Morrison, had been awarded close to $1.5 million dollars to support projects associated with the Science Institute for the Disabled. In 1992-93, Dr. Morrison was awarded a major NSF research grant in the amount of $154,200 to support his work in quantum chemistry. In the 1990's, Dr. Zoretic had received three American Chemical Society – Petroleum Research Fund awards totaling $70,000. He had more than sixty research papers to his credit by the time he retired in 2000.

By the end of the 1990's, Dr. Gemperline's external grant awards also exceeded $1,000,000 from funding agencies that included private industry, government, and the NSF. He also authored more than forty papers, two book chapters and two conference proceedings. He has made numerous

presentations in the U.S. and around the world. He served on the editorial board of numerous professional journals and served as the North American editor for the Journal of Chemometrics, and he received many honors including the ECU Sigma Xi Helms Research Award in 1987, the Five-Year Achievement in Research Award, and the Distinguished Research Professor of Chemistry Award in 1999.

Dr. Rodriguez is another success story. In the 1990's he received more than $327,000 in grant awards, including two prestigious and highly competitive awards from the NSF.

The department's Master of Science program received a major uplift in May 1993 when the Burroughs Wellcome Fund at RTP announced a decision to endow a major gift to the department. The endowment in the amount of $375,000 was to be used to fund in perpetuity two graduate fellowships in organic chemistry annually. Another $15,000 was granted to the department to launch the award in 1993. A ceremony was organized by Dr. Li on September 13, 1993 to celebrate the event. Dr. Howard Schaeffer, then President of the Burroughs Wellcome Fund, and Chancellor Eakin were on hand to conduct the ceremony.

In 1995, Mr. James Ebron, a chemistry alumnus, and then a site manager of the Burroughs Wellcome Co. in Greenville, donated $100,000 on behalf of Burroughs Wellcome Co. to the College of Arts and Sciences to establish a distinguished lectureship in biology and chemistry. Dr. Byron Coulter, then College Associate Dean, Dr. Charles Bland, Chair of Biology, and Dr. Li met and set the guidelines for the lectureship series. The two departments held joint symposia in March 1996 and again in March 2000. Except 1996 and 2000, the two departments would alternate sponsoring the lectures. The inaugural symposium chaired by Dr. Li with Dr. Love and two biology faculty serving on the symposium committee invited three world-class scientists, Professor Philip S. Portoghese of University of Minnesota, Professor Celia Bonaventura of Duke, and Dr. Paul L. Feldman of Glaxo, Corp., to speak on campus. The event was held in the Flanagan Building. Dr. John Sibert single-handedly organized the symposium for chemistry in April 1998. Dr. Anthony G. M. Barrett of the Imperial College of London, and Dr. Jeffrey I. Seeman of the Stevens Institute of Technology, were the invited speakers. Drs. Toby Allen and Nathan Brandstater successfully organized the 2000 Burroughs Wellcome Lectures jointly with the Biology Department. Two internationally renowned scientists, Dr. Thomas J. Meyer and Dr. Roger A. Pederson, were the speakers for the symposium which was held in the Medical School auditorium. In March 2001, Dr. Toby Allen single-handedly organized the symposium, and he invited two world-class researchers, Professor Chad A. Mirkin of Northwestern, and Professor Adam P. Arkin of University of California at Berkeley, to speak at the Flanagan Building.

In teaching, in the early 1990's, Dr. Caroline Ayers was very active in chemical education research. She published book chapters in the multi-volume SourceBook and was its Assistant Editor. She had given presentations at NC Science Teachers Association meetings and at Mississippi's state-wide Chemsource Workshop. As Chair of the Curriculum Committee, Dr. George O. Evans led the department to revise and upgrade the chemistry undergraduate curriculum. The accelerated BS/MS program (also known as the 4+1 program) had been successfully implemented. A new biological chemistry and lab course (Chem 2770/2771) was developed by Dr. David Bjorkman to satisfy the ACS certification requirements. Dr. Hix received the University Outstanding Major's Advisor Award in 1995. Dr. Li was the recipient of the 1996 Robert and Lina Mays (Alumni) Teaching Excellence Award. Many faculty were developing web-assisted instruction and PowerPoint

presentations. Dr. Evans developed a coursepak for Chem 1150/1160 and completely revamped the inorganic lab, Chem 3451. As the coordinator of general chemistry labs, Mr. Lewis led the development of new experiments several of which were computerized for Chem 1151/1161. A team of faculty, Dr. Gemperline, Mr. William Lewis, Dr. McIntyre, and others, also started a multi-media project to revamp the teaching of Chem 1151/1161. Ms. Rand was very active and successful in securing funding from various sources including the Student Computer Program for the Chemistry Learning Center. In 1998-99, she raised approximately $90,000 to renovate the Center. The money was used to purchase new computers, furniture, and new software. When Ms. Rand retired in 1998, Dr. Bjorkman was appointed Acting Director of the Learning Center. A year later, he became the Director.

In the 1990's, the department nominated three alumni to receive ECU's outstanding alumni awards. The awardees were:

1990 – Dr. Keith Holmes, Jr.	Senior Manager in the Pharmaceutical Industry (Analytical Development and Technical Development) (BS in Chemistry, 1968)
1994 – Mr. James Ebron	Former Site Manager of the Burroughs Wellcome Co. Greenville Plant, deceased, 2000. (BS in Chemistry, 1970 and M. S. in 1972)
1998 – Dr. Claude Hughes	Former Duke Univ. Medical School Professor, the Women's Guild Chair in Women's Health at Cedar-Sinai Medical Center in Los Angeles. (BS in Biochemistry, 1973)

There was a major event known as the "Meeting in Miniature," which was conceived and launched for the department by Dr. Art Rodriguez and his wife, Dr. Vonda Jones Rodriguez then of Burroughs Wellcome Co. It was a huge success every time it was held. The event had attracted students from North Carolina and nearby states. Dr. Rodriguez organized three major "Meeting in Miniatures" on campus in 1991, 1993, and 1995. It was a one-day (Friday) event. During the day time, undergraduate and graduate students from ECU, and from North Carolina, South Carolina, and Virginia, presented their research papers in the Flanagan Building. These papers were judged by a faculty panel. In the evening, a Nobel Laureate was invited as a keynote speaker at the banquet. After the speech and the dinner, the Nobel Laureate would present student winners with a certificate and cash awards. Typically, the first place winners of both the undergraduate and graduate division won $300, second place won $200, and the third place won $100. The winners were very excited because besides the awards, they got a handshake with a Nobel Laureate. In 1991, the department invited Dr. Gertrude Elion from then Burroughs Wellcome; in 1993 Dr. Herbert Brown from Purdue; and, in 1995 Dr. Derek Barton from Texas A&M. After 1995, the department no longer sponsored the event and the event was moved to the Southeastern Regional ACS meetings.

The following is an abbreviated summary that reflects the department's scholarly activities in the last four decades:

Comparison of Scholarly Activities in the Department During the Last Four Decades

Decade	No. Journal Articles	No. of Presentations at Scientific Meetings	New External Grant Funding
1960's	10	18	$134,065
1970's	46	106	$423,328
1980's	77	180	$1,709,750
1990's	120	219	$2,448,764

(Note: The grant funds do not include the Burroughs Wellcome Co. endowments and supercomputer funding.)

Overall, the major challenges facing the department in the 1990's were: 1) The need for more release-time for faculty to conduct research; 2) the need to increase the number and the amount of graduate assistantships; 3) the need to offer competitive start-up packages; and, 4) the need to increase the budget which had been flat for the past ten years.

THE *New Millennium*

FINDING A NEW NICHE AND MEETING NEW CHALLENGES

The department started with a bang in the 21st Century with new faculty hired and new grants awarded. While ECU was being reclassified as a Research Intensive Doctoral University, the department was also preparing to move toward becoming a more research-oriented academic unit with new initiatives and directions.

The department saw two more faculty members retiring upon entering the new century. In July 2000, Dr. Phillip A. Zoretic retired, and in December 2000, Dr. Fred M. Parham, the last faculty member who was hired in the 1960's, retired. Also, Dr. Magdalena James-Pederson joined the department on a permanent fixed-term appointment in fall 2000, but she resigned a year later to join her husband in New Jersey.

Among the five fixed-term faculty who were hired in 1999-2000, three were later selected to fill tenure-track positions. The first was Dr. Anthony Hayford, who was hired in August 2000. He, an organic PhD chemist trained at the University of Maryland, was a Camille & Henry Dreyfus Post-doctoral Fellow at the University of Minnesota, Duluth, and a lecturer at the University of Wisconsin, Green Bay. The second was Dr. Timothy Romack, who was hired in January 2001, and the third was Dr. Robert McIntyre, who was hired in August 2001. Dr. Romack is a polymer chemist from UNC-Chapel Hill and is a co-founder of Micell Technologies. He had dozens of patent awards. Dr. McIntyre, an inorganic chemist from the University of New Orleans, was a lecturer at St. Mary's College of California and San Francisco State University, and did his post-doctoral work under Dr. Art Rodriguez at ECU.

In August 2001, three new non-tenure-track faculty members joined the department: Rosa Alvarez-Bolainez, PhD, NCSU; William Donovan; PhD, Purdue, and James Reho, PhD, Princeton. After a national search conducted in the late fall of 2001 and early spring of 2002, Dr. Reho was selected to fill the Director of General Chemistry Laboratories position vacated by Mr. William Lewis who moved to Arizona in May 2002, and Dr. Rachel Ward (PhD, U. Pittsburgh) was selected to fill the second permanent fixed-term position. The only regret during this period was the inability to hire a suitable candidate after an extensive national search for a tenure-track biophysical chemist position because of less-competitive packages and insufficient start-up funds (compared with what other schools could offer). Offers were made to three top candidates, but they all turned us down. During this period, two new staff members were hired. Ms. Gwendolyn Williams joined the department in December 2000 to fill the vacated Office Assistant IV position. Her position was reclassified in fall 2004 as Office Assistant V, an Administrative Assistant position handling budget and personnel paperwork. In November 2001, the department hired Ms. Renee Mayo, Office Assistant III. As the department's receptionist, she also handled graduate committee work, student payrolls, classroom scheduling, and alumni matters.

It was a very exciting period between fall 2002 and fall 2004. A total of five new tenure-track faculty at the Assistant Professor level, and one tenured Full Professor, joined the department. In December 2002, the department was given two new tenure-track positions, one for enrollment increase and another for diversity. The department was able to fill these two new positions and two existing tenure-track positions during a twelve-month period.

In July 2003, Dr. Libero J. Bartolotti joined the department as a tenured full-professor and Director of the Center for Applied Computational Studies in a position specifically allocated by the Provost William Swart. His hiring came from the Provost's initiative of encouraging academic departments to recruit star professors. Dr. Bartolotti, a quantum and theoretical chemist, has extensive experience in high performance computing. His research was concerned with the development and application of the concepts of density function theory to problems of chemical interest. He, a Vietnam Veteran, received his Ph. D. from Southern Illinois University in Carbondale, and he worked as a computational scientist at North Carolina supercomputing Center before joining ECU.

The four new tenure-track faculty members who joined the department starting August 25, 2003 were Dr. Colin Burns (bio-organic), Dr. Yumin Li (bio-computational), Dr. Kwang Hun Lim (bio-physical), and Dr. Andrew Morehead (organic).

Dr. Burns, a peptide chemist, received his PhD from the University of North Carolina at Chapel Hill and did research as an NIH Postdoctoral Fellow at the University of California at Santa Cruz. Dr. Yumin Li has expertise in molecular dynamics simulation of proteins and their antiviral activity. She received her PhD from Nanjing University of Science and Technology, China, and did postdoctoral research in China, Japan, and at Purdue University in the USA. Dr. Kwang Hun Lim, a Korea-educated chemist, was awarded a PhD in Physical Chemistry from the State University of New York at Stony Brook and did post-doctoral research at the University of California at Berkeley. He is a trained expert in protein solid-state NMR spectroscopy. He spent more than $100,000 of his start-up funding ($170,000) to purchase a magic-angle spinning solid-state probe for the department's 500 MHz NMR spectrometer. Dr. Morehead, an AB cum laude in chemistry from Harvard, received his PhD from Duke University and did his postdoctoral research as an NIH postdoctoral Research Fellow at California Institute of Technology. Prior to coming to ECU, he was an assistant professor in chemistry at the University of Maryland, College Park. He is specialized in catalysis and organometallic chemistry. The success of recruiting these highly qualified new faculty was due largely to the start-up funding of nearly $357,000 over a three year period provided by Harriot College of Arts and Sciences.

In August 2004, the department successfully recruited another new tenure-track faculty at the Assistant Professor level, Dr. Allison S. Danell. Dr. Danell received her PhD from the University of North Carolina at Chapel Hill in Analytical Chemistry and did postdoctoral research at the Rowland Institute at Harvard. Dr. Danell is an expert on mass spectrometry (MS) and her research interests include studying the effects of ionization and vaporization of biomolecules using tandem mass spectrometry (MS/MS). Like Dr. Lim, she was also given $170,000 startup funding to launch her research at ECU.

Comments from Dr. Allison Danell

"I had the pleasure of hearing Dr. Li tell many stories about how different his life was in the department in the 1970's versus when I joined the department in 2004. One of my favorite stories, which I was lucky to hear him tell during my interview here, was of the "flood of 1973". It wasn't a natural disaster, but a lab accident that occurred over the weekend that no one discovered until it was too late. A chilled water line Dr. Li had hooked up burst, and his lab flooded. The damage was worst, though, in the workshop underneath his lab in Flanagan. When he found out the damage to the shop's machinery would cost more to repair than he earned in a year, Dr. Li figured it was time to pack up and go back to working as a

postdoctoral researcher. He even called his old advisor to make arrangements, and told his wife it was time to move again. Their young family had been in Greenville for only a few months! Of course, Dr. Li didn't lose his job because the chairperson was so understanding about the accident. It was such a scary event for Dr. Li but somehow he laughed during the telling of the whole story. Even in the short time I knew Dr. Li, it was clear that whenever he had to show compassion to one of his young professors, the flood of 1973 must have been on his mind."

During the first four years of the new century, the department's research activity in terms of securing external funding continues to thrive. In August 2000, the department received a major award from the NSF in an amount of $208,338 ($480,000 with matching funds from ECU) to purchase two super-conducting Varian multi-nuclei nuclear magnetic resonance spectrometers (300 MHz, 7.0 Tesla and 500 MHz, 11.7 Tesla). Even though this acquisition was based on a multi-author proposal, Dr. Rodriguez was instrumental in getting the proposal funded. In April, 2001, Dr. Art Rodriguez directed the installation of these two pieces of equipment. The 500 MHz now has the distinction of being the only high-field research-grade NMR spectrometer in North Carolina, east of Interstate 95.

In 2000-2001, new external grant awards exceeded $269,600 (not including supercomputer-time awards worth $192,000); there were four active grants ($133,800) and five new submissions ($608,800).

In 2001-2002, chemistry faculty received seven new external grant awards (totaling nearly $296,791 from Research Corp -Cottrell Science, ACS-PRF, ORAU, Dreyfus, Reynolds, and DSM-Catalytica) and four internal grants ($49,600 from Research/ Creative Activity Committee, and CIITR). Also, the department had seven active grants ($153,800 from MCEC, Research Corp, DuPont, Eli Lily, ORAU); and submitted ten new external grant proposals ($1,427,700). One faculty member (Romack) received 10 new patent awards.

In 2002-2003, Chemistry faculty were awarded five new grants totaling $434,614. They also submitted 13 grant proposals for a total of $5.06 million, including 7 pending proposals worth $3.39 million.

The year 2003-2004 was another banner year in terms of external funding. Chemistry faculty members were awarded 12 new external grants totaling $715,260, and 7 new internal grants totaling $82,094. Also, Chemistry faculty submitted new grants for a total of $4,897,644.

All in all, during the four-year period between fall 2000 and fall 2004, the external new grant funding totaled over $1.7 million. The following lists some of the most notable grant awards. In addition, during this period, chemistry faculty published 36 peer-reviewed journal articles, three book chapters, and presented 151 papers at professional conferences.

Dr. Toby Allen received $38,494 from the Research Corporation in 2001-2002, and $57,531 from the North Carolina Biotechnology Center in 2002-2003.

Dr. Colin Burns received grant funding in the amount of $20,000 from the American Cancer Society Institutional Research via ECU Brody School of Medicine in 2004.

Dr. Paul Gemperline was awarded $40,902 from the Measurement and Control Engineering Center (MCEC), and $8,000 from Eastman Kodak in 2000-2001; $38,400 from MCEC in 2001-2002; and, a major NSF award of $238,000 in 2001-2002 to support his research entitled "Chemometrics Tools for Characterization of Evolving Chemical Processes."

Dr. Kwang Hun Lim was awarded the College Research Award in 2003, and $35,000 from the ACS-PRF.

In 2004, Dr. Andrew Morehead was awarded a major NSF grant in the amount of $228,000 to support his research on the catalytic synthesis of antagonists, the indanones and tetralones.

In Spring 2001, Dr. Timothy Romack received the Ralph E. Powe Junior Faculty Enhancement Award ($5,000 with an equal match from ECU) sponsored by Oak Ridge Associated Universities, and in July 2001 he received the 2001 Camille & Henry Dreyfus Faculty Start-up Grant Award for Undergraduate Institutions ($20,000). Both awards were a first in the history of the department. He was also awarded an ACS-PRF Type G grant of $35,000 in 2001.

Dr. Yu Yang was awarded $49,650 from Research Corporation in 2001-2002. This was a renewal grant from his first Research Corporation Award of $39,218 in 1998. Remarkably, the Research Corporation very rarely offers a second grant to the same investigator.

The department was awarded two major grants, $250,000 from the Golden LEAF Foundation, and $32,500 from the North Carolina Biotechnology Center, to fund the construction of a first-ever GMP (Good Manufacturing Practices) lab in analytical chemistry in eastern North Carolina, or likely in the state of North Carolina. Dr. Chia-yu Li served as the Primary Investigator for the two grants. The lab was built in one of the Science & Technology Building shell spaces (Room 348). Two industrial partners, DSM Pharmaceutical Inc. and Metrics. Inc. were instrumental in assisting Dr. Li secure the grants and in assisting in the design of this new analytical lab under FDA approved guidelines. Seniors and graduate-level students are being trained to work in this lab, which is being filled with modern analytical equipment (dissolution apparatus, chromatographs and optical spectrometers, etc.) under strict GMP and FDA guidelines. A course has been developed to train students industrial analytical chemistry techniques. The first class was offered as a special topics – analytical chemistry course, Chem 5526, in the fall semester of 2004 with a capacity enrollment of 10 students. Students who finish this class have an excellent chance of being offered an outstanding industrial position.

A third industrial partner, Fuji Silysia Chemical Co., provides the department annually with a $10,000 donation. Under the agreement, Fuji Silysia sends a Japanese scientist to take classes and/or work on research projects every two years. The scientist was paid by Fuji Silysia with an annual stipend. To date, two scientists have been hosted from Japan. They were Mr. Toru Kondo, from August 2000 to July 2002, and Mr. Massatoshi Okada from August 2002 to July 2004. The Chemical Engineering Department at NC State is the only other North Carolina institution that has a similar partnership arrangement like that of the Chemistry department.

The department has also been successful in securing funds from industries for industrial internship training. The department has established a good relationship with local firms. With funding ($26,000) from Catalytica Pharmaceuticals (now DSM Pharmaceuticals, Inc.), the department

started an innovative industrial internship program in spring 1999. Three senior students were enrolled in the program with the stipulation that they would continue as MS students in the department. In the following year, Catalytica Pharmaceuticals provided funding of $22,683 for three students to do fourteen weeks of summer intern work. A new summer internship program was established in May 2000 with PCS Phosphate. The new program supports one student ($2,304) performing 200 hours of work at the company. Both industrial internships were continuing in the summer of 2001.

Other notable awards include:

Dr. William E. Allen was the recipient of the 2002 UNC Board of Governors Distinguished Professor for Teaching Award. He was tenured and promoted to Associate Professor starting August 2004.

Dr. David Bjorkman was a finalist for the 2003 University Award for Outstanding Teaching and for the 2003 Robert L. Jones Award for Outstanding Teaching.

Dr. Paul Gemperline was honored in August 2001 as the fifth (and the youngest) Distinguished Professor of the College of Arts and Sciences by Dean Sparrow. He was also the recipient of the 2003 Eastern Analytical Symposium Award for Achievements in Chemometrics, the highest international award in the field of chemometrics. In November of 2003, Dr. Gemperline was appointed Interim Associate Vice Chancellor for Research and Graduate Studies.

Dr. James Reho was a grand winner of Five Ventures at UNC-Charlotte for his research on identifying the chemical composition of the attractant of pre-molting female blue crabs in 2004.

In 2001, Dr. Love was the recipient of the Vice Chancellor's Teacher-Scholar Award.

Dr. Tim Romack was awarded three new US patents in 2003 and one in 2004, all of which deal with the uses of carbon dioxide as environmentally friendly cleaning agents.

Dr. Yang was the recipient of the Sigma Xi Helms Research Award in April 2003 and the Teacher-Scholar Award in May 2003. Also, he was an invited speaker at the 2001 International Symposium on Supercritical Fluid Chromatography. Dr. Yang was rated as one of the best teachers in the department by students, receiving the 2001 UNC Board of Governors Distinguished Professor for Teaching Award, and he was a finalist for ECU's Alumni Teaching Award. Dr. Yang was tenured and promoted to Associate Professor starting in August 2003.

Dr. Allen and Dr. Morehead's students were awarded 2004 summer fellowships from Pfizer and GlaxoSmithKline pharmaceutical companies. One of Dr. Yang's graduate students was awarded scholarships and admissions to five Medical Schools. Dr. Hayford's undergraduate research student, Gwen Bass, was selected as a finalist for the 2004 NOBCChE (National Organization for Black Chemists and Chemical Engineers) Undergraduate Research Award Competition sponsored by Rohm and Haas Company. She was given a $3000 per month summer internship with Rohm and Haas working on nanotechnology.

Innovations and Memorable Events

In the fall of 2000, the department launched a highly successful program, the "Bachelor of Science and Accelerated MS in Chemistry" program, also known as the "4+1"program. This idea was originally conceived by Dr. Andrew Sargent. Under this program, highly motivated B. S. students are encouraged to do undergraduate research under the supervision of faculty mentors during their senior year. They can complete the MS degree requirements with one more year of research and coursework, usually under the same mentors. Students have benefited from the program because, in theory, they can get their BS and Masters' degrees in five years. Faculty members have benefited because they can recruit their graduate students from the already trained undergraduate researchers. The department has benefited because it provides a very valuable supply of graduate students to the M. S. program at a time when the number of international students is dwindling. This is indeed a win-win-win situation.

Another highly successful program known as the "Undergraduate Teaching (Lab) Assistants (UTAs or ULAs) Program" was started in fall 2002. This was also a product of Dr. Andrew Sargent's creative idea. Through this program, highly trained undergraduate students were paid a modest stipend with department funds to teach general chemistry labs, Chem 1151/1161, alongside faculty or senior graduate students. All ULAs, who were selected from a pool of qualified undergraduate students, must go through vigorous training by taking Chem 2301, Teaching Laboratory Chemistry, before they are assigned lab assistant duties. The program has helped reduce faculty's teaching load and allowed them to spend more time on their research. On the other hand, the ULAs get very valuable experience in lab instruction. It helps enhance their understanding of the subject matter and hones their problem solving skills.

Largely due to the efforts of Dr. Andrew Sargent, the department has successfully developed and implemented a three-year program (including summer school) for our BA students and the MD7 program (to finish medical school in seven years including getting an undergraduate degree).

The Department held the Burroughs Wellcome Distinguished Lectures in the Sciences (organized by Chia-yu Li and Yu Yang) on March 14, 2003 in Flanagan 201, followed by an evening banquet at the Mendenhall Student Center. The theme of the symposium was "Bio-Separation" featuring four distinguished speakers, Profs. Milton Lee of Brigham Young, Edward Yeung of Iowa State, Jonathan Sweedler of U. of Illinois, and James Jorgenson of UNC Chapel Hill.

The department organized a College Science Departments - Medical School Conference on "Bio-Initiative" on Feb. 5, 2002. The major purpose of the Conference was to promote research collaboration and to focus new faculty hires in the areas of biochemistry, biotechnology, nano-technology, and new drug discoveries. The Conference was attended by three College chairs (Biology, Chemistry, and Physics), three Medical School chairs (Biochemistry, Microbiology & Immunology, and Pharmacology), and more than a dozen research-active science faculty. This meeting helped set the stage for the department to move to a bio-related research focus.

In fall 2003, Dr. Chia-yu Li was diagnosed with cancer and submitted his resignation as Chair of Chemistry to Dean Keats Sparrow in January 2004. Dean Sparrow accepted his resignation but asked him to stay as Chair until his replacement was found provided that his health condition allowed. In November 2003 the Harriot College of Arts & Sciences honored Dr. Li by naming

the Chemistry Conference Room (Room 311) after him. Dr. Li humbly accepted the honor. The department began looking for a new chair. Dr. Rickey Hicks, from Mississippi State University and Walter Reed Army Hospital, accepted the position.

Through the nomination by the department, Mr. Phil Hodges received the Outstanding Alumni Award in October 2004. Mr. Hodges received his degrees from ECU (BS in Chemistry, 1979, and MS in Analytical Chemistry, 1984), and he is the founder of Metrics, Inc., and has been the CEO and President since its inception in 1994.

In spring 2000, Dr. Morrison was elected Chair of the Faculty Senate and was re-elected to two more terms in spring 2001 and spring 2002. He was the second faculty member in the department to become Chair of Faculty. Dr. Caroline Ayers was the first and served in that capacity in 1982-83.

Tenured faculty voted on May 4, 2001, to approve a new Code, which was drafted by the Code Committee. The members of the committee were Drs. Evans (Chair), Love, Sargent, and Rodriguez. Dr. Evans had spent countless hours in preparing the code for the department. The new Code was finally approved by the Chair of the Faculty Senate, Rick Niswander, on September 16, 2003, and by Interim Chancellor William Shelton on October 7, 2003.

Starting in May 2001, Dr. Sargent succeeded Dr. Hix as Director of Undergraduate Studies. Dr. Art Rodriguez continued serving as the department's Director of Graduate Studies since 1999.

One of the most frustrating problems facing the department is that the continuing operating budget, despite significant enrollment growth, has remained flat for the last twelve years. Sole dependence on the state budget to address continuing monetary needs is no longer acceptable. The Faculty have been encouraged to seek external funding sources and they are doing very well. To sustain and to enhance growth, the department is committed to acquiring more funding from non-state sources such as grants, contracts, and fund-raising projects.

A Brief History

OF THE DEVELOPMENT OF THE DEPARTMENT'S UNDERGRADUATE AND GRADUATE DEGREE PROGRAMS

In 1965, a new Bachelor of Science in Chemistry degree program was approved by the ECC Administration. By 1967, three undergraduate degree programs were offered in the department -- BA in Chemistry, BS in Chemistry, and BS in the Teaching of Chemistry. In September 1967, just prior to the 154th National American Chemical Society (ACS) meeting in Chicago, Dr. Lamb went before the ACS Subcommittee on Professional Training to request approval for the accreditation of the BS (professional) degree program. The application was well received, and a site visit by Dr. William H. Fletcher of the University of Tennessee, appointed by the ACS, was conducted in the fall of 1969. The formal accreditation was granted a few months later on March 13, 1970.

During the fall quarter of 1967, the application for the MS in Chemistry degree was approved by the North Carolina Board of Higher Education. Five graduate students initiated the program in 1967-68, and there were eight in the program in the fall quarter, 1968-69. The number of graduate students in the program grew to 14 in 1970-71. Prior to formal granting of the MS in Chemistry at East Carolina University, there were two recorded MA in Chemistry theses written by students. The first entitled *"Some N,N'-Tetrasubstituted Thioureas"* was written by Cheong-hwan Kim under the supervision of Dr. Joseph N. LeConte in August 1963. The second entitled *"A Study of the Reaction of Chlorine with Dimethylamine and the Preparation of Some Chloraminated Nitrogen and Phosphorus Bases"* by Randall Frank Andrews in June 1966 under Dr. Donald F. Clemens. The year 1969 marked the first year the department offered the MS in Chemistry degree at ECU. In that year, three MS theses were defended. They were: *"Solvent Effect on the Decomposition Kinetics of bis-(α,α-dibenzylacetyl) Peroxide"* by Murdock McKinnon Butler, Jr. in May 1969 under Dr. Robert Lamb, *"Thermal Decomposition Mechanisms for Some Isobutyryl Substituted Benzoyl Peroxides in Cyclohexane"* by John Ronald Sanderson in May 1969 (also under Dr. Lamb), and *"A Line Sharpening Amplifier for Electron Spin Resonance Spectroscopy"* by Stewart Phinizy Barrett, Jr. in August 1969 under Dr. David Lunney.

While the MS program was still in its infancy, the department had already looked forward to the ultimate goal of establishing a PhD program in Chemistry. In 1970, the Department submitted a formal proposal to the University's Ad Hoc Committee on doctoral programs in 1970, but the attempt failed to win approval from the Committee. It was not until 1999, nearly thirty years later, when the department was trying again for a PhD program. A letter of intent to study the feasibility of establishing an interdisciplinary doctoral program related to chemistry was submitted to the Vice Chancellor for Research, Tom Feldbush. The Administration's response was that it was pre-mature for Chemistry to submit a plan. The department submitted a plan to develop a new MS in Biochemistry program in 2002 to then Provost William Swart. The rationale was that ECU has a BS in Biochemistry degree program offered by the Department of Biology, and a PhD in Biochemistry offered by the Brody Medical School's Department of Biochemistry (now Department of Biochemistry and Molecular Biology), but no academic unit was offering a MS in Biochemistry. The Provost's ruling was that the idea of developing another MS program be dropped and, instead, strive for a new PhD degree.

In conjunction with the university's five year plan (1974-80), the department was planning a new M. S. Degree in Industrial, Biomedical, and Environmental Instrumentation. This was the niche

that the department was hoping to develop eventually into a PhD program. It made sense because the department in the mid 1970's had a nucleus of five faculty members with expertise in electronic instrumentation interfacing with minicomputers. However, this degree program was never realized. In the early 1990's, the department was very interested in launching a feasibility study for establishing an interdisciplinary PhD program in bioanalytical chemistry, but the initiative was not pursued.

The department completed a successful MS program review in the 1998-1999 academic year. A panel composed of two external reviewers (Dr. Joseph Templeton of UNC-Chapel Hill, and Dr. Fred Hawkridge of Virginia Commonwealth University) and two internal reviewers (Dr. Scott Snyder of Geology, and Dr. Gerhard Kalmus of Biology) visited the department in December 1998. They affirmed the quality of the MS program and recommended its continuation. On the other hand, the MS program was identified by the UNC-GA for the third time in four years as a low productivity program, meaning the department produced less than eight MS degreed persons per year. An active recruiting strategy that is partially based on the new accelerated MS plan was then developed and implemented to attract students into the graduate program.

The head counts in all chemistry classes increased from slightly over 800 in 1973 (data not available prior to 1973) to around 1,300 at the end of 1970's. The headcount remained relatively flat until about the mid 1980's before it dropped to around 900 in the late 1980's. The enrollment figure (fall semesters) started to climb rapidly to over 1,700 in the late 1990's, a nearly 200 % increase over the previous decade. After reaching a high of more than 1,750 students in fall 1998, the number declined to just over 1,500 students in fall 2000. The decline seemed to coincide with a decrease in pre-medical and pre-health applications. Starting in fall 2000, the fall enrollment figures began to climb again. In fall 2004, more than 2,000 students registered for chemistry classes, a new high in the last three decades. In other words, during the last five years (from fall 2000 to fall 2004), the enrollment had grown by greater than 30%, or more than 6% per year. In all likelihood, the number will continue to rise because of the anticipated increase in the overall ECU student population in the coming decade.

To absorb these extra students, faculty members had to teach larger classes and labs. The size of each lab section was 20 students per section when they were in the Flanagan Building. Now, the maximum size of each lab section has increased to 24 students in the new building. Again, the Faculty had to make the sacrifice by teaching a larger lab with 20% more students in each section resulting in an increase in workload (e.g. more papers, reports, and exams to grade, etc.).

During the past 30 years, the number of chemistry BA/BS undergraduate majors also fluctuated in a cyclic manner. The number reached a high of 65 in the mid 1970's, and then declined to a low of 22 in the mid 1980's. The headcount started to increase steadily in the 1990's to a record high of 79 in 1999-2000. A similar trend was also observed in the graduate student enrollment for past three decades. The number of BA/BS and MS degrees conferred followed the same trend.

Despite the growth of enrollment in service courses, the department has maintained a healthy and steady growing enrollment of chemistry majors. The department graduated 31 students (15 BA and 16 BS) in May 2001. This class was probably a historic new high. This class also had more than 40% of the graduates with an overall GPA greater than 3.5 (Cum Laude: 3 students, Magna Cum Laude:

3 students, and Summa Cum Laude: 7 students). Also, one of two University Award recipients was a chemistry student, Seth Weaver (overall GPA 4.0). Seven MS students completed their studies before the end of summer of 2001. More than 200 people attended the graduation and awards ceremony on May 11, 2001 in the Mendenhall Student Center. At the ceremony, the department distributed five endowed scholarships (LeConte, Everett, Holmes, Clemens, and Moldin) totaling $6,500 to 17 chemistry majors, and two endowed Burroughs Wellcome Fellowships in Organic Chemistry at $11,500 each to two MS students.

The department held its annual graduation and awards ceremony for the first time in the new building's large classroom (# C-307) at 10:30 am on May 7, 2004. A lunch was served in the third floor lobby area following the celebration. The event was well attended by 250 guests and family members of our graduates. It was a standing room only celebration. The department recognized the graduation of 8 MS, 10 BS, and 21 BA students in the ceremony. The department also recognized eleven undergraduate and three graduate students, who were given endowed scholarships (LeConte, Everett, Holmes, Moldin, Kizer, and Li) and cash awards totaling $4,600. Eleven other students were recognized and received non-cash awards.

The March 29, 2004 issue of the Chemical & Engineering News, an official publication of the American Chemical Society, reported the degrees awarded by schools offering an ACS-certified (accredited) chemistry program for the academic year 2001-2002. ECU's three Chemistry programs (BA, BS, and MS) ranked very well nationally. With 14 BS students graduated from the department in 2001-2002, ECU Chemistry ranked 24th among 107 ACS-certified schools. ECU was ahead of six ACC schools except UNC-Chapel Hill and NC State. The group of schools ranked lower than ECU also included some of the most prestigious schools in the nation, such as UC-Berkeley, Chicago, Harvard, Brown, Columbia, Notre Dame, Northwestern, U Penn, Dartmouth, Princeton, Ohio State, Penn State, and Wisconsin-Madison, etc. With 28 BA and BS (combined) students graduated from the department in 2001-2002, ECU's Chemistry Department ranked 39th among the 107 schools. Under this category, ECU ranked higher than Clemson, Wake Forest, Iowa State, Northwestern, Brown, Columbia, Dartmouth, Harvard, Princeton, Yale, and many others. With six MS students graduated from our department in 2001-2002, ECU ranked 22nd among 98 schools that offer the MS program in the nation. ECU ranked higher than three ACC schools (Clemson, Duke and Wake Forest) and two Ivy League schools (Dartmouth and Princeton). This report indicates that ECU Chemistry is not only big in size when compared with 107 other certified schools, but also offers a quality education to our students.

However, in the following two years, the number of certified BS graduates dropped to 11 in 2003, and to10 in 2004. In contrast, the number of BA graduates increased to 18 in 2003, and to 21 in 2004. In the same time span, the number of MS graduates decreased to five in 2003, but the number increased to 8 in 2004.

The growth in chemistry majors was the result of active recruitment by the Faculty. Many of them were attracted by the accelerated BS/MS (4+1) program mentioned above, which allows students to pursue and finish a MS degree within one year after the completion of their BS degree. The new BA-in-three year program has also attracted many non-chemistry majors (mainly biology) to add a BA in chemistry as their second major.

The promotion of undergraduate research has always been encouraged in the Chemistry Department. Faculty members have actively recruited undergraduate students into their research groups. In fall 2003 and fall 2004, 28 and 16 students, enrolled in Chem 4515, 4516, and 4517 (Research Problems in Chemistry), respectively. All of them had a faculty mentor who advised their research. The Faculty had to take a "voluntary overload" to supervise these undergraduate students in their groups while they were still carrying a regular teaching load.

Many faculty members are now using smart-board and multi-media presentation technology along with Blackboard to present their lectures in the Science & Technology Building classrooms. Dr. David Bjorkman and Dr. Irene Gerow spearheaded the development of 3-D visualization of molecular models using the RAVE technology in their Chem 1120 classes. Chemistry faculty continued to develop new courses for the department such as Introduction to Chemical Literature (Chem 2103), Practicum in Teaching (Chem 3301), Chemistry for Engineering Students, and Forensic Chemistry.

Under the interim leadership of Dr. Art Rodriguez, the department has actively pursued becoming a major player in the ECU's IDPBS (Interdisciplinary Doctoral Program in the Biological Sciences). This is a newly minted PhD program that involves faculty from both east (academic departments such as biology, chemistry, and physics) and west campuses (Brody Medical School). Many research-active tenured faculty and newly hired young faculty with research agendas in bio-related areas are eager to participate. Given time, Chemistry will have its first PhD student graduated under this new umbrella program.

Closing Statement from Dr. Li

Chemistry has come a long way. The Chemistry Department's history is a part of ECU history. In the last fifty plus years, the department has grown from being a small teaching unit to a major academic unit that offers both undergraduate and graduate degrees. The department's alumni, some 400+ strong, have become successful citizens of North Carolina and the country. Some of them have become entrepreneurs that founded their own companies. The department's impact on local and North Carolina economies is immeasurable. In this State, the new century started with two types of up-and-coming industries, the nano-technology and the revamped bio-technology industries that includes biopharmaceuticals. In each of these areas, the Chemistry Department can play a significant role in contributing to their development. The Chemistry Department is becoming a more and more research-oriented department. Its growth will not only help the economic growth of the region but also the entire state. Research-active faculty have been, and are continuing to be, recruited. Students are getting a better and better education through exposure to cutting edge chemical research. The future is bright for chemistry and for ECU!

Statement from Dr. Rickey Hicks

It was a great honor and privilege for me to be recruited to serve as Chair of the Chemistry Department at East Carolina University. Over the past twenty years I have worked at various research and teaching institutions, including the Department of Chemistry at Mississippi State University for twelve years and at the Walter Reed Army Institute of Research in Washington, DC. The Chemistry Department at ECU is without question the friendliest and most respectful institution I have had the pleasure to work with. What attracted me most to this position was the

dedication of the faculty to provide students with the best educational experience possible. Since joining the Department and University in August of 2006, my positive opinions and feelings of respect for the students and faculty have been confirmed many times over.

As Dr. Li, our previous Chair, stated: "The Chemistry Department is becoming a more and more research-oriented department. Its growth will not only help the economic growth of the region but also the entire state. Research-active faculty have been, and are continuing to be, recruited." This is a major part of my mission as Chair, to increase the research productivity and visibility of our Department. I take this responsibility very seriously. Currently we have excellent faculty poised to become national leaders in various areas of research and technology. This growth will have a dramatic impact on the economic wellbeing of Eastern North Carolina.

Even with the greater emphasis on research, let me assure you, that on my watch, we as a department will continue to focus on the student. My promise to you is even as we grow in research we will continue to provide our students the best quality education in the state of North Carolina. In fact, involving our great students in cutting-edge research is a critical part of their education! So, as always, the focus of this department is our students.

The past hundred years have been exciting and full of change. I want to thank you for your personal contributions to that history as a student, faculty or staff member, and as alumni. I personally look forward to serving you and all our students in their life-long quest for education and professional development.

Custodial Staff

Keeping Up Appearances: Award Recognizes 10 Properties

This article was published October 5, 2006 by The Daily Reflector, Greenville, NC.
Author: T. Scott Batchelor, The Daily Reflector

"If you were bringing somebody to this town," said Greenville resident Diane Kulik, "and they had no clue what it looked like, what would you show them?" Her answer is the Pitt County Court House and grounds, one of 10 winners recognized Wednesday in a biennial ceremony that bestows awards on private and public entities whose properties add aesthetic value to the community.

"The courthouse blows you away when you stand there and look at that," said Kulik, a member of the city's Community Appearance Commission and chairwoman of its landscape and architecture awards committee. Kulik and her colleagues chose the courthouse and the other recipients from a pool of 72 winners recognized during monthly presentations made by the commission during the past two years.

The 10 who received top honors during a brief ceremony on Wednesday include East Carolina University property, a shopping center, a city streetscape, a private medical center and a church.

Representatives of these visually pleasing places were on hand at City Hall to receive a hand-painted decorative tile honoring their commitment to keeping the city looking great. "I really appreciate it," said Connie Cluderay, co-founder of Argus Properties of Charlotte, which developed and owns Lynncroft shopping center, one of the award recipients. "We appreciate the city of Greenville. Everyone here has been great to work with...and we love being here." Lynncroft is emblematic of conscientious planning and maintenance, Kulik said in an earlier interview. "There are shopping centers that just evolve - more buildings get put on top of each other," she said. Lynncroft is different, from the brickwork, to the architecture, to gas light accents on the facade and to the landscaping. "There's landscaping in layers - different kinds of plants, textures - they went the nine yards," Kulik said.

Billy Godwin, ECU head baseball coach, accepted the award for the recently opened Clark-LeClair Stadium. "It's a great honor," Godwin said. "We've got one of the nicest baseball facilities not just in North Carolina but in the country."

This year's award continues a tradition begun in November 2004. Kulik said the appearance commission, established by the City Council, recognizes organizations that have put in an extra effort to beautify their properties. "How they look affects how we feel about our city," she said Wednesday. Publicly noting those achievements is important for two reasons, Kulik said. "No. 1, it's for enhancement of quality of life for all of our citizens in the city," she said. But there's also a tangible benefit that accrues from making things look good.

"It's very important for economic development," she said. Companies take into consideration many factors when deciding where to locate or expand their operations. "Part of it is the quality of life it will bring their employees, and this can be a deciding factor," Kulik said.

Another award recipient was the city of Greenville, for the landscaping along Hooker Road. "It makes you feel uplifted when you drive down streets that are taken care of," Kulik said. "This city has a lot of pride in the city." Recipients take the awards to heart, she said, recalling a chance encounter with the manager of an apartment complex. "They immediately said, 'We just won a landscaping award!'" Kulik said. "Real pride," she said. "Real ownership." Much of the credit goes to the city's own development regulations, which include vegetation and other requirements that help preserve Greenville's aesthetic appeal, she said Wednesday.

Following are this year's recipients:

- Hooker Road landscaping - city of Greenville
- Clark-LeClair Stadium - East Carolina University
- Greenville Convention Center - city of Greenville
- ECU chancellor's residence - East Carolina University
- **ECU Science and Technology Building - East Carolina University**
- Lynncroft Shopping Center - Argus Properties
- Pitt County Court House - Pitt County
- St. Paul's Episcopal Church - Episcopal Diocese of East Carolina
- Surgicenter Services of Pitt - Pitt County Memorial Hospital
- The Daily Reflector - Cox N.C. Publications

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Our Photos

THROUGH THE YEARS

Science Faculty
1965

Dr. Donald E. Bailey
Dr. Austin D. Bond
Mr. Joseph G. Boyette
Dr. J. William Byrd
Miss H. Frances Cozart

Dr. Graham J. Davis
Mr. J. O. Derrick
Dr. Frank W. Eller
Dr. Grover W. Everett
Mrs. Lucille B. Garmon

Dr. Mary C. Helms
Dr. R.M. Helms

Dr. Donald B. Jeffreys
Dr. Clifford B. Knight
Dr. Joseph N. LeConte
Dr. Floyd E. Mattheis
Mr. James D. Nicholson

Mr. Charles W. O'Rear, Jr.
Mr. Floyd M. Read, Jr.
Dr. Charles W. Reynolds
Dr. Tom Sayetta
Mr. Moses M. Sheppard

Dr. Everett C. Simpson

Chemistry Faculty
1967

Dr. Robert C. Lamb, Director
Dr. Donald Clemens
Mr. J. O. Derrick
Dr. Frank W. Eller
Dr. Grover W. Everett

Dr. Arthur R. Macon
Dr. Robert A. Klein
Dr. Jang Kuo
Dr. Joseph N. LeConte
Dr. Ivie Lee Smith

The department lost three faculty members in 1967-68. Dr. Ivie Lee Smith resigned, Dr. Susan T. Smith moved to Medical Technology, and Dr. Jang Kuo took his own life. The tragic death of Dr. Kuo was a real blow to the department as everyone had anticipated a bright and promising career for him. In their place, three new faculty were hired in 1968: Dr. David C. Lunney, Dr. James E. Hix Jr., and Dr. William K. H. Hu.

▲ *R. Roberts, Vice President; K. Holmes Jr., President; R. Peele, Secretary; Dr. F. Parham, Advisor; W. Lindsey, Treasurer.*

Chemical Society Sponors Lectures

American Student Affiliate Chapter of the American Chemical Society was formed to instill in its members a professional pridee in shemistry through intellectual stimulation arising from professional association. The society stimulated and maintained an interest in modern developments in chemistry through field trips to industry and lectures by guests. The club sponsored the sales of chemical handbooks and a symposium for high school seniors.

First Row: J. Woodford, P. Allen, K. Holmes, Jr. ▶
Second Row: Z. Tyndall, J.R. Jenkins, C. Rivenbark
Third Row: C. Moore, R. Oglesby, S. Brower
Fourth Row: J. Bailes, R. Marry Peele, B. Lindsey
Fifth Row: G. Locks, D. Beavers, R. Roberts
Sixth Row: C. Hudson, Jr., M. Wright

American Chemical Society

1975

Officers: President - Benjamin Winters; Vice-President - Larry Surles; Secretary - Peggy Jones; Treasurer - Sally Templemon
Members: Joseph Chan, Walter Lackey, Dr. Heckel, Bart Cleary, Harry Severance, Vandell Clark, Tillet Mills, Tom Barrett, Charles Banlowe, Denise Worington, Kathy Rubel, Corky Johnston, Jonathan Phair

1976

American Chemical Society

The student affiliate chapter of the American Chemical Society at ECU was selected for special commendation by ACS's committee on chemical education. The ECU chapter was one of only 92 of the 609 affiliate chapters in the nation to be rated above average for the 1974-75 academic year, according to committee officials. Among activties for which the commendation was made was a free tutoring service provided by the local chapter for any student enrolled in chemistry.

Chemistry Faculty

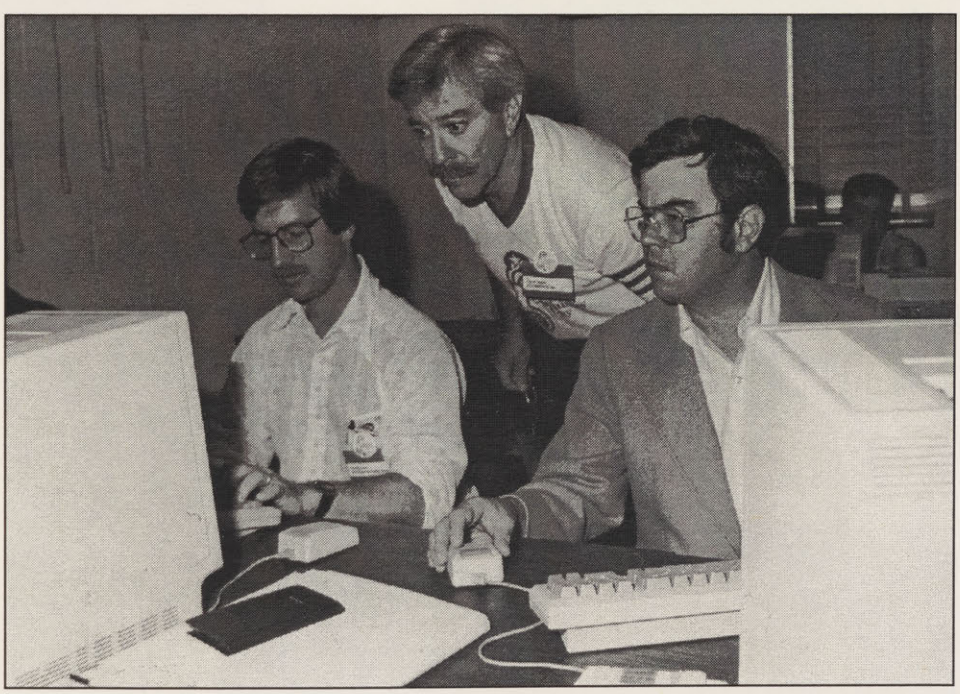
1980s

First Row: Bruce Whitaker, Carol Hanoites, Bill Dawson, Myron Casper, Owen Kingsbury; Second Row: Angelo Volpe, Bene Collier, Don Clemens, Bob Morrison, Chia-Yu Li; Third Row: Bob Lamb, ?, Edith Rand, Carol Meyers, Barbara Andrews; Fouth Row: David Lunney, Jim Hix, Wayne Ayers, Bob Klein, Fred Parham; Fifth Row: ?, Edgar Heckel

Chemistry

1986

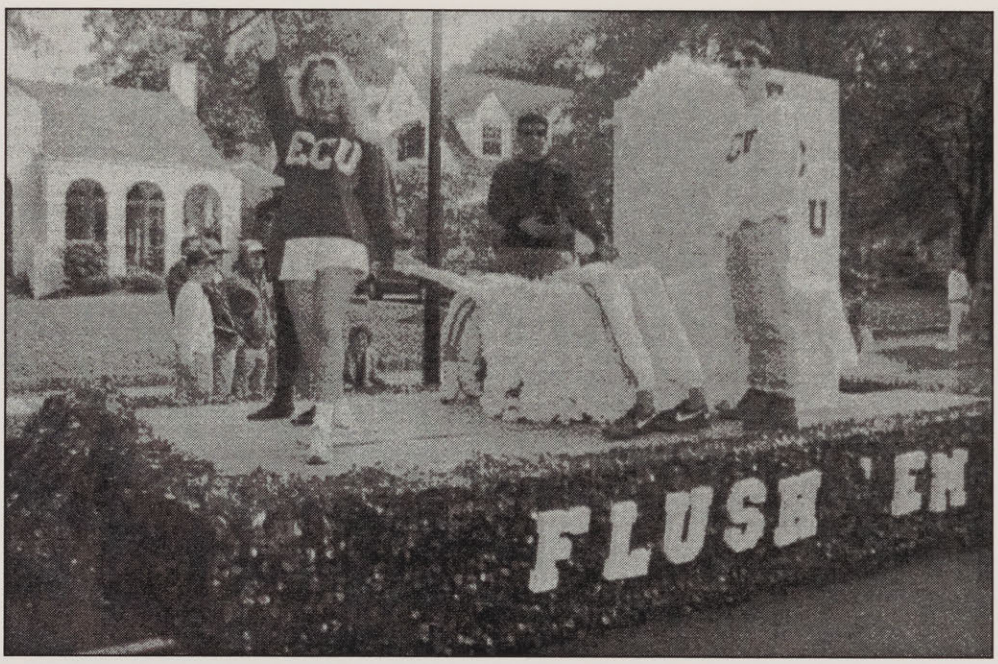
▲ *Shan Biggers (left) and Bob Lamb (center)*



▲ *Woody Dixon (left) and Myron Casper (center)*

Homecoming

1992



▲ *American Chemistry Society - Student Affiliate Chapter Float*

Clemens Retirement

1994

▲ *Left to Right: Brooks Whitehurst, Edith Rand, Skip Rand, Don Clemens' daughter*

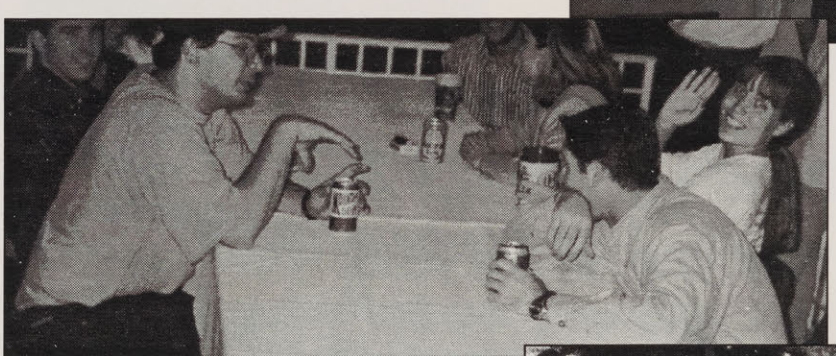
▲ *Kay Clemens*

▲ *Left to Right: Floyd Reed, Stan White, Jim Hix, Bob Klein, Bob Lamb*

▲ *Left to Right: Brian Love, Andy Sargent, Garnett Whithurst, Shirley Morrison, Brooks Whitehurst, Bob Morrison*

Homecoming

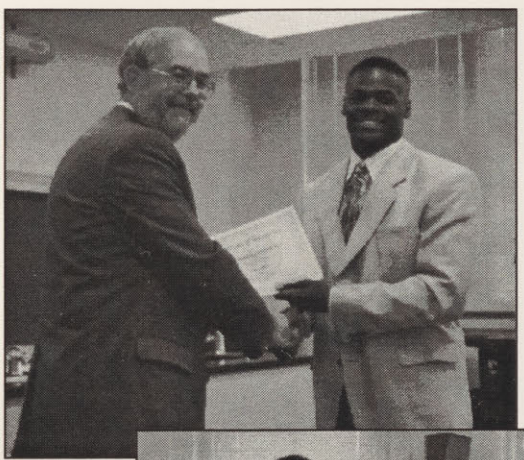
1995

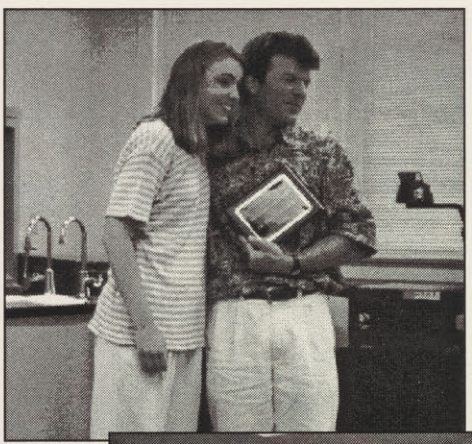


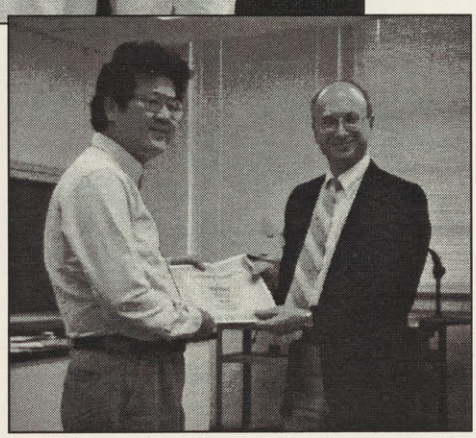
▲ *Dr. Art Rodrigues*

Spring Ceremony

May 6, 1995





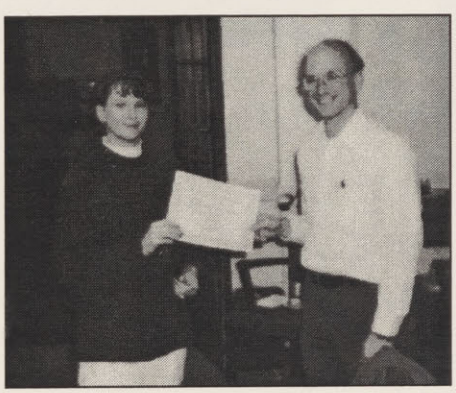


Top: Dr. Jim Hix and David Crumbie; Bottom: Dr. Art Rodrigues and student

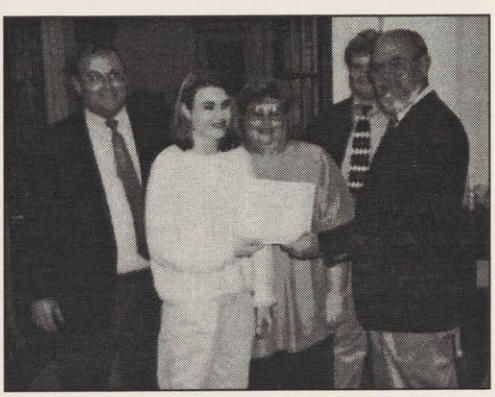
Top: Dr. Bill Church and student; Bottom: Dr. Paul Gemperline and student

Fall Ceremony

1995



▲ *Kathy Herman and Dr. Paul Gemperline*



▲ *Brandye Smith and Family*

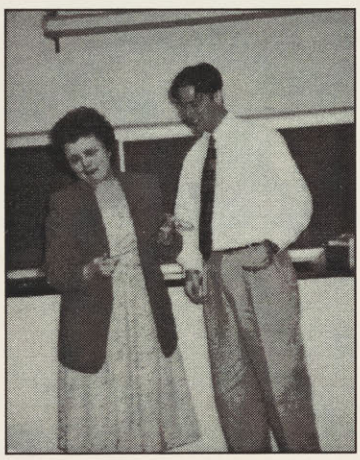
Barefoot on the Mall

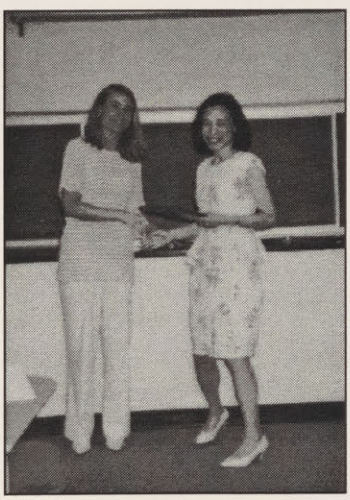
1996

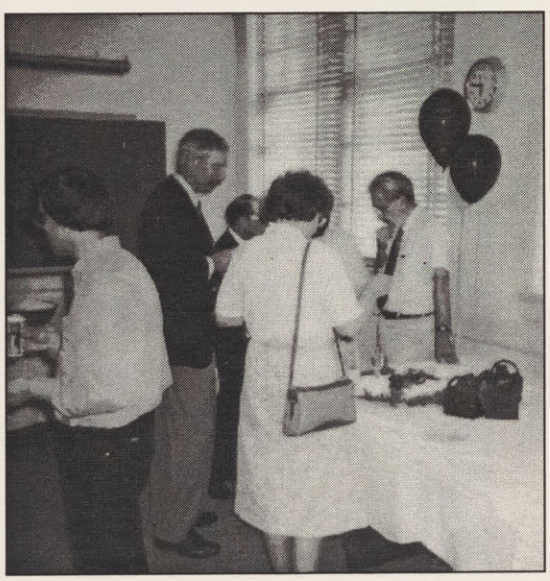
Chemistry faculty take sticky hits in a pie-throwing contest, but not without good cause. The Chemistry Student Research Association sponsored the booth at Barefoot on the Mall to raise money to buy research supplies and to attend research conferences. The targets are Geoffrey Barker, Richard Vinson, and Paul Gemperline. Photo by Linda Fox.

Spring Graduation

MAY 3, 1996

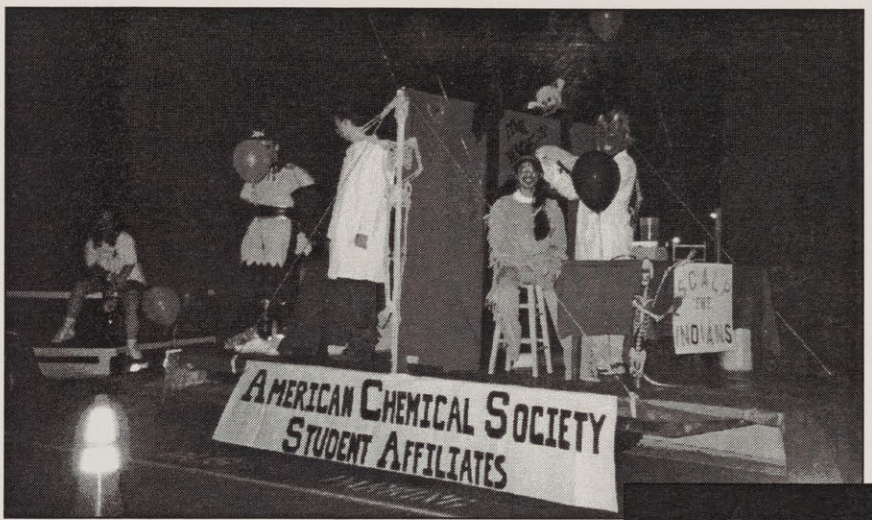






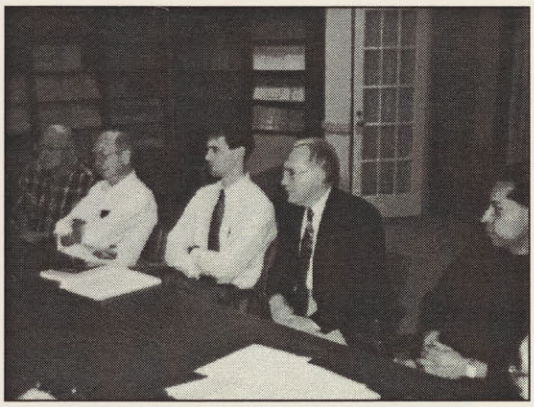
Homecoming

November 2, 1996



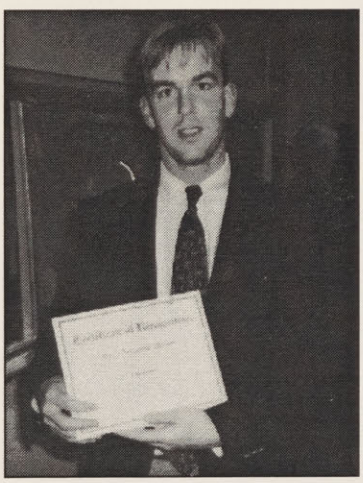
Faculty Meeting

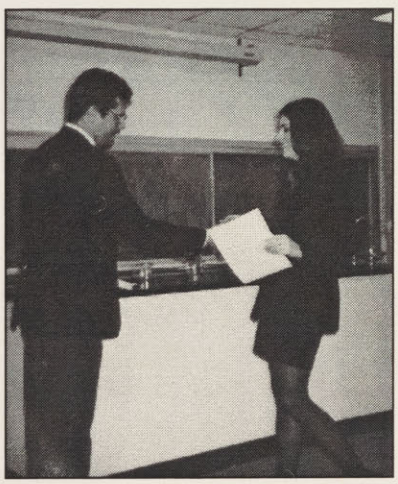
1997



Fall Graduation

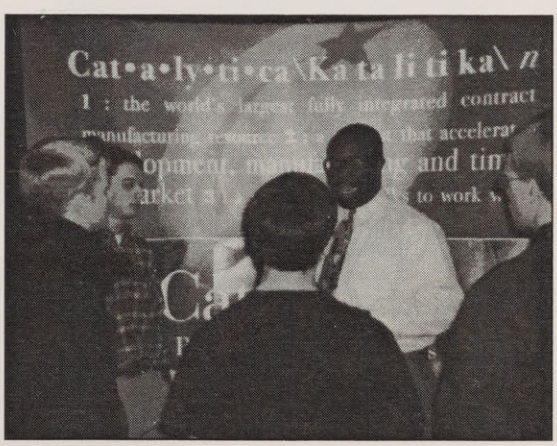
December 12, 1997





Career Day

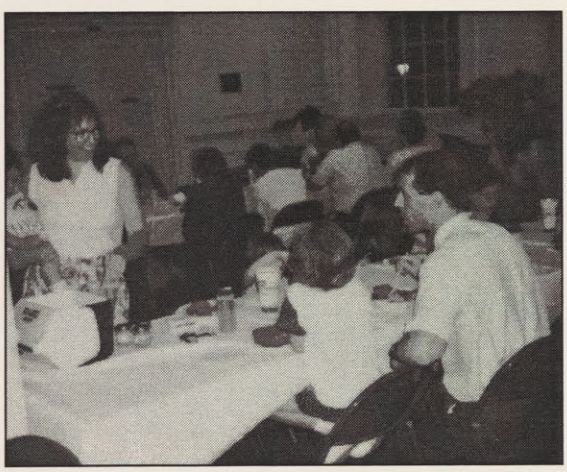
1998

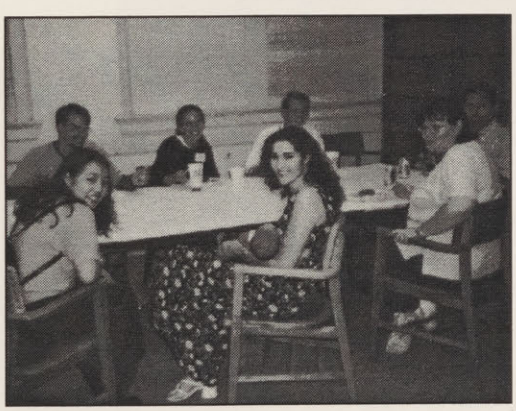


▲ *Middle Facing: Mr. Toririste O'Neal*

Homecoming Dinner

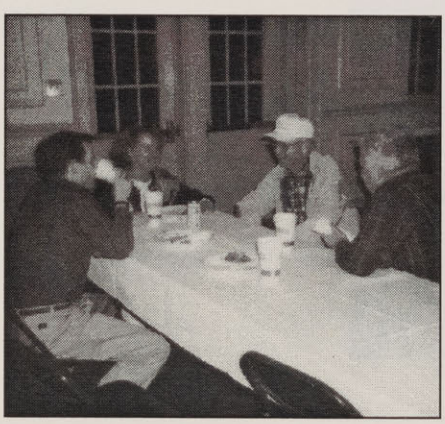
October 9, 1998

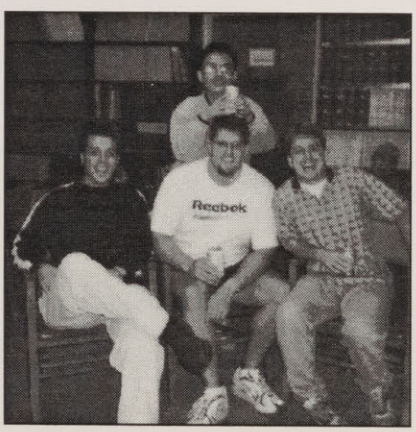




Homecoming

October 23, 1999





Dedication

OF LEARNING CENTER FOR MRS. RAND

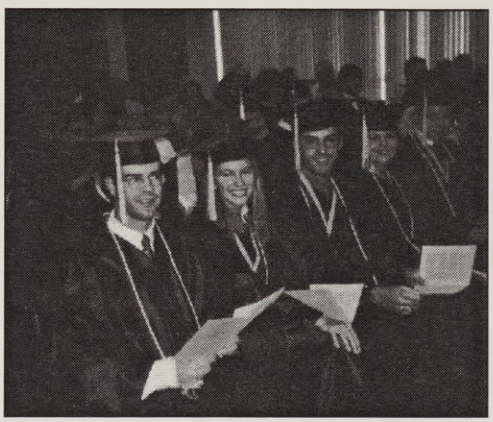
▲ *Dr. Li and Mrs. Rand*

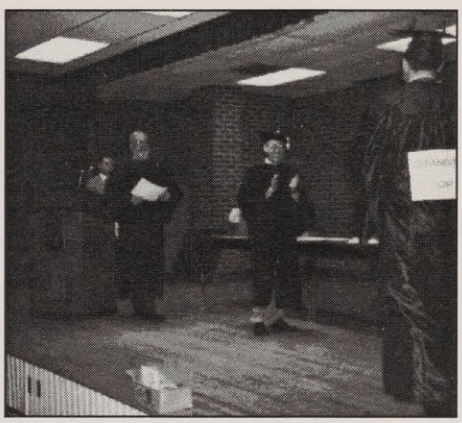
▲ *L toR: Ms. Kittrell, Mr. Newton, Mr. Dawson*

▲ *Mrs. Hawkins*

Spring Graduation

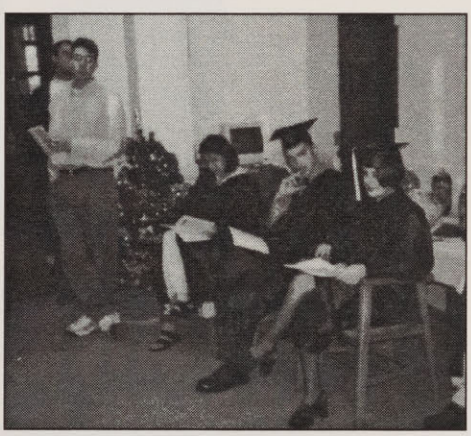
May 2000

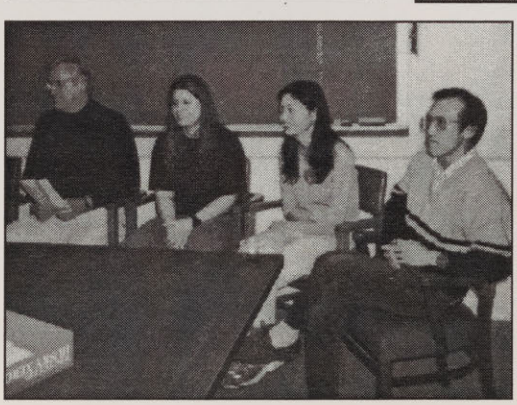


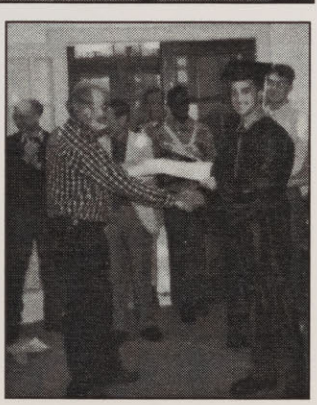


Fall Graduation

December 2000







Pieces of Eight

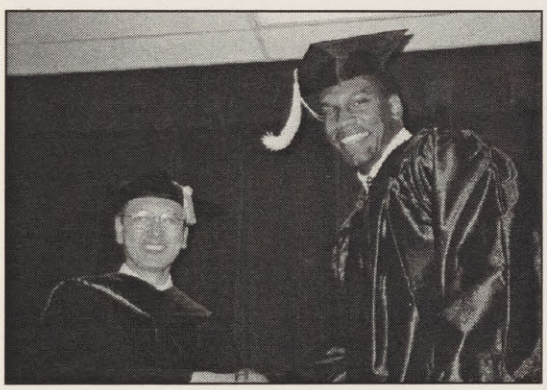
November 10, 2000

Groundbreaking Ceremony

March 2, 2001

Spring Graduation

May 11, 2001

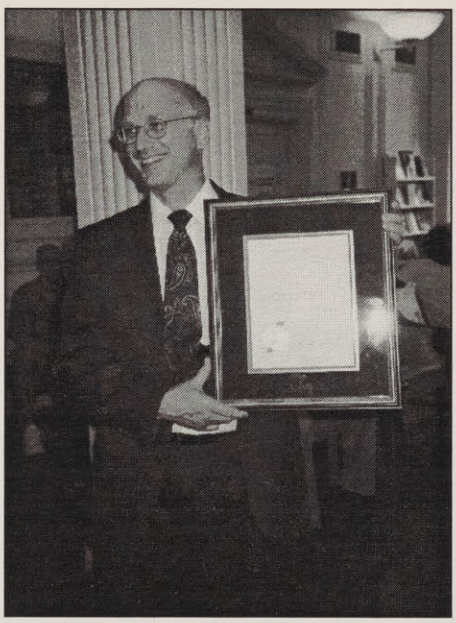


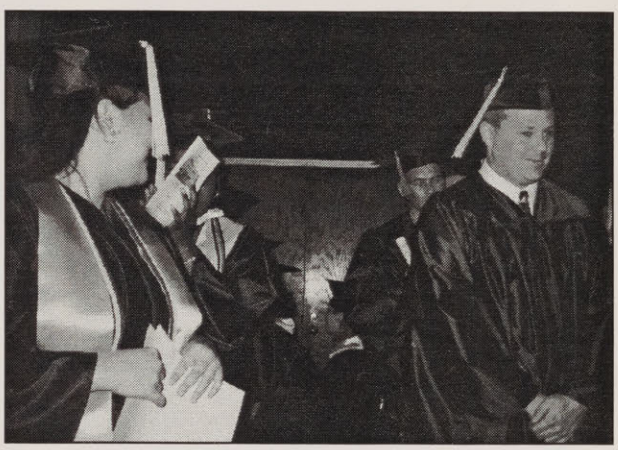
Bruce Whitaker

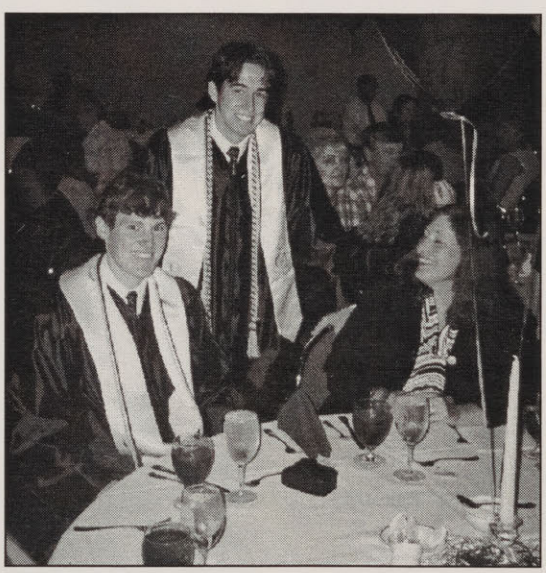
Retirement Party June 28, 2001

Graduation

2002

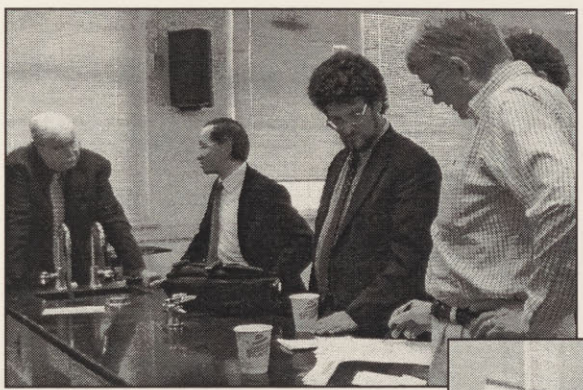


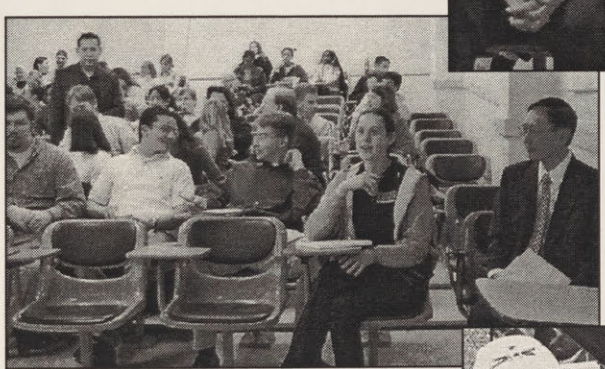




Dedication Ceremony

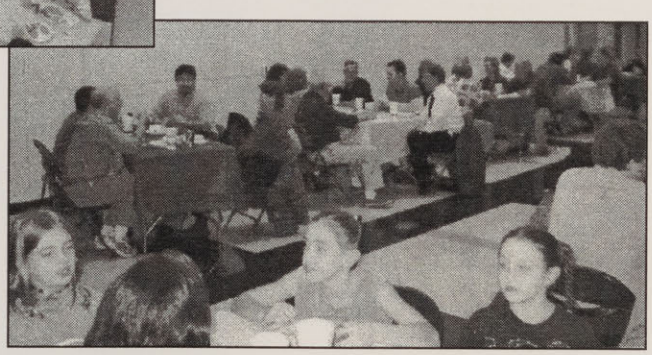
Chia-yu Li Conference Room





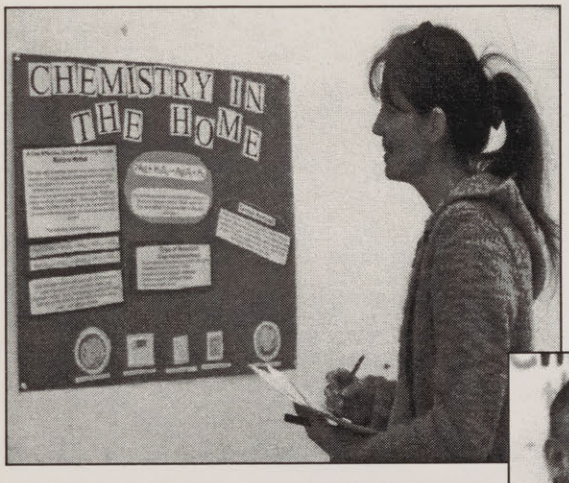
Homecoming

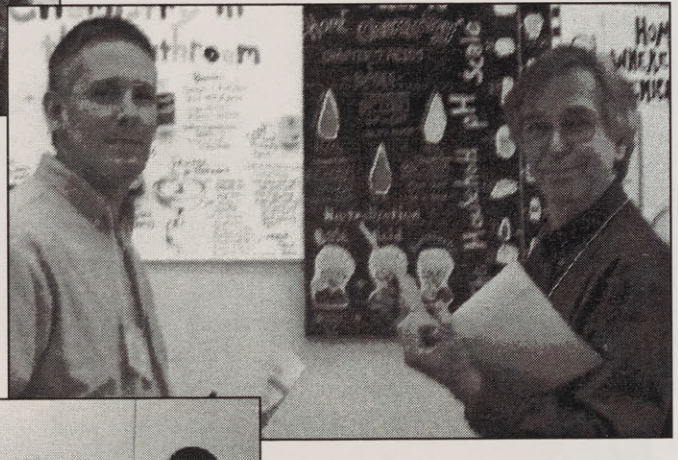
2004



Chemathon

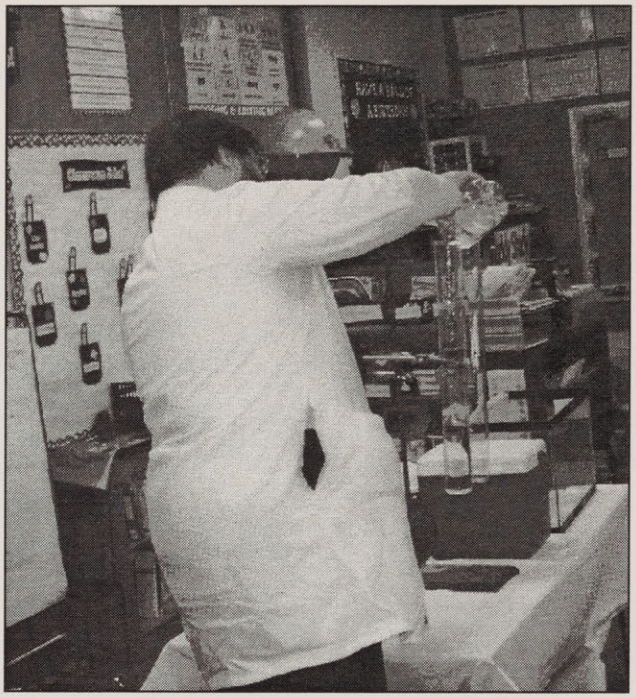
March 22, 2007

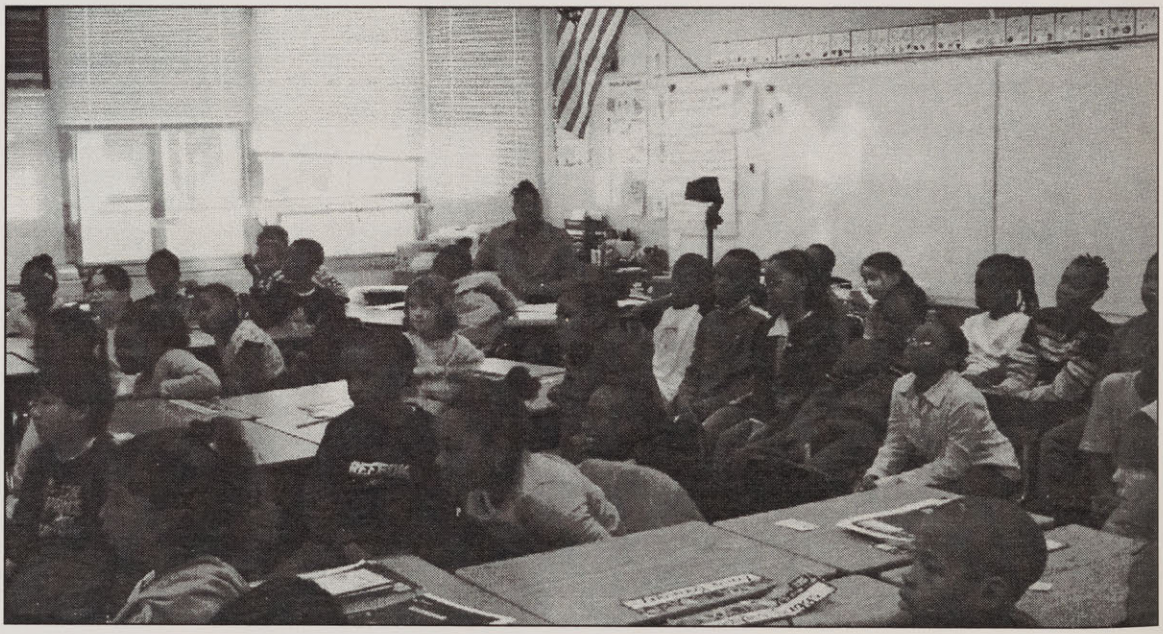




Outreach Programs

2007





Chemistry

2007