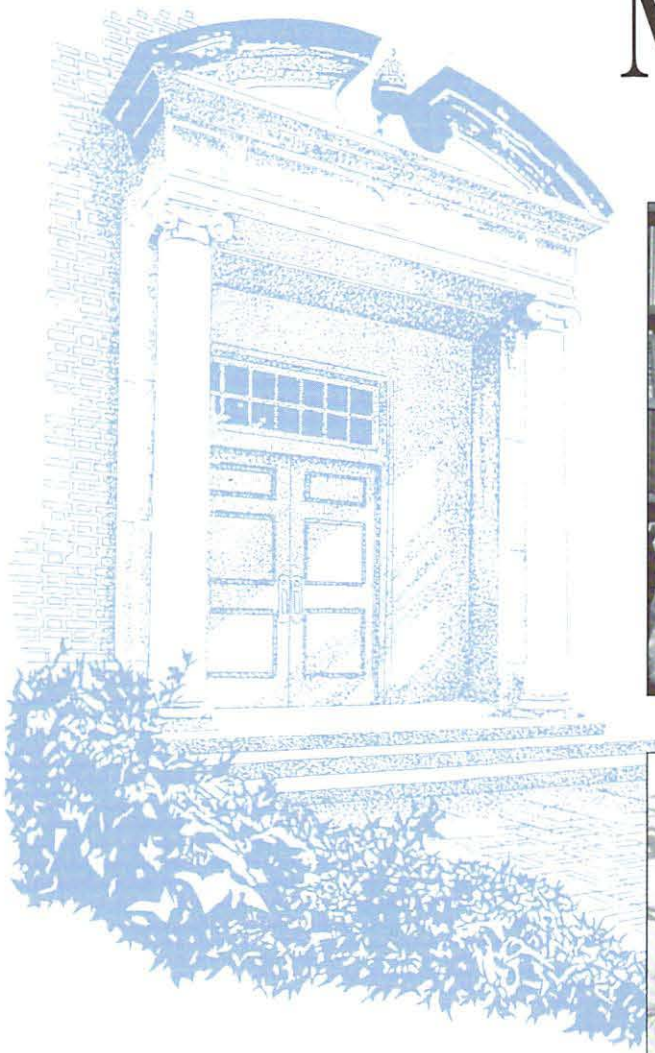
HealthBeat MAGAZINE



The University of South Carolina School of Public Health

Spring 1993

HealthBeat MAGAZINE

Inside:

HealthBeat is published in the Spring and Fall by the Office of the Dean, School of Public Health, University of South Carolina, Columbia, South Carolina 29208.

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On the Cover:

Top: Mike Samuels, Dr. P.H., and Leiyu Shi, Dr. P.H. (standing), have co-authored **"Physician Recruitment and Retention: A Guide for Rural Medical Group Practice,** *"a book designed to guide rural communities in finding, hiring, and retaining general practitioners.*

Bottom: Senator Phil P. Leventis spoke to the graduating class of 1993 at the School of Public Health May Hooding Ceremonies. He charged the students to employ all the skills they gained through academic pursuits, to make the world a better place. He reminded them that "no real life issues are simple. No matters are all good or all bad, yes or no, on or off, black or white."And that "you should question change just as you question the status quo. . . Objectively and scientifically examine suggested change. Be sure it is change for the better."

From the Dean

Dean Winona Vernberg

Perhaps because cancer has plagued us for years, we sometimes forget its prevalence. At times it seems almost commonplace, replaced by newer and seemingly more monstrous diseases, such as AIDS.

And yet the latest cancer figures are truly frightening. Nationally, one in nine women will develop breast cancer; one in 10 men will develop prostate cancer by age 85. About 1,500 children will die of cancer this year.

In South Carolina, cancer is the number two killer, second only to heart disease. Incidences of esophageal and prostate cancer are higher in South Carolina than in 46 other states. At approximately 5.3 deaths per 100,000, our state has the highest mortality from cervical cancer in the entire country.

It is estimated that 1,170,000 new cancer cases will be diagnosed this year in the United States. When we look beyond these numbers we realize that, over the next few months, more than a million people will be told they have cancer. Almost half of them — about 526,000 — will die from it.

The cancer research field is a complex one, but there have been many discoveries in the past decade. After years of dedicated research, scientists are finding that some cancers are preventable, that they can be treated and cured. They are finding that lifestyle changes such as good nutrition, adequate exercise, proper stress management, and other factors can save thousands of lives each year. This issue of *HealthBeat* is dedicated to these researchers, many of whom are working within our University System.

Cancer research has been conducted at USC for over 20 years. More than 60 faculty members within the University are involved in 50 different areas of cancer research. Six School of Public Health faculty are now actively involved in cancer research in the primary areas of prevention, treatment, and rehabilitation.

Four of our faculty are members of teams that have been awarded the first grants-in-aid from the South Carolina Cancer Center, a collaboration between USC and Richland Memorial Hospital (RMH). Ann Coker, Mark Davis, David Essig, John Ureda, and their colleagues have been awarded these one-year grants, which total $75,000. The grants were funded by the School of Medicine, the College of Science and Mathematics, the College of Nursing, the College of Pharmacy, the School of Public Health, the Provost's Office, and RMH. We take a closer look at this new research in this issue of *HealthBeat.*

Many of our alumni are also leading the way in cancer research. As head of the Center for Cancer Research and Treatment at RMH, alumnus Calvin Harrison is involved in the management of state-of-the-art cancer treatment and research. You can read more about him and the Center on page 6.

Within the past few months alone, researchers in our state have made great strides in cancer research. A link between cervical cancer and a wart virus has been uncovered, and work is underway to create a state tumor registry. Successful new programs like these are clear indicators that our continued efforts are not in vain, and they act as motivating factors to keep us searching for answers. We can take pride in knowing that, because of our efforts, the pulse of American cancer research is strong and steady.

Health Faculty Receive Center's First Cancer Grants

The South Carolina Cancer Center is funding the cancer research of four School of Public Health faculty members and their research teams.

As a joint venture between Richland Memorial Hospital (RMH) and USC, the newly created Center is guided by a group of four RMH representatives and four USC representatives. The Center's goal is to facilitate better cancer research, health care, and education statewide.

This collaborative effort involves a total of 100 researchers from USC, many of them from the School of Public Health, and RMH. Our faculty are involved in four of the first nine grants-in-aid that the Center has awarded. Here is a brief look at this new cancer research:

John Ureda

Prevention and Control

John Ureda, Dr.P.H., (HPRE), is principal investigator, working with James Hussey, Ph.D., (BIOS), Randall Rose, Ph.D., (BA), on *Peripheral Cues and Argument Strength as Variables in Persuasive Communications for Promoting Mammography Screening*, which has received $7,500 in funding.

The goal of the project is to understand how to more effectively communicate the need for mammography to at-risk women. "We are targeting rural, low-income, minority women who are not linked in readily with the medical system; they are considered low-involvement," Ureda says. "Because public service announcements and other media messages often assume that all people are high-involvement, they may not be reaching this population."

The project began in earnest this spring when the first of 400 women viewed a 30-minute talk show with commercials, one of which was a mammography ad, according to Susan Kirby, an HPRE graduate student whose dissertation is based on this research. Some of the women will see a full-color ad with an attractive, nonargumentative spokesperson, and comforting background music. Some women will see a black-and-white ad with an authoritative spokesperson and harsher background music.

"Directly after viewing the show, the women answer a questionnaire that will help us determine their attitude about regular mammograms, their intention to get more information, and their intention to get a mammogram," Kirby says.

The research will not tell us the number of women who actually get a mammogram, however. "But we will have a lot of measures added toward intention to get a mammography," says Randall Rose, associate professor of marketing at USC and a research team member. "There will also be a set of beliefs and attitudinal measures that will allow us to judge whether one type of ad is better in a certain circumstance than another." Or, in this case, whether one type of ad might convince more at-risk women to have regular mammograms.

Ureda, who has conducted cancer research for several years, knows the importance of regular screenings. "Today, of the one hundred people who get cancer, fifty will die," he says. "With our current screening technology, twenty-five of them don't have to."

Carcinogenesis

Ann Coker, Ph.D., (EPID), is principal investigator for *Collaborative Investigation of Papilloma Virus Prevalence among South Carolinians*, which has received $10,100 in funding.

Ann Coker

"Since South Carolina has the nation's highest cervical cancer incidence and death rates, finding the cause of cervical cancer is very important for women in this state," says Coker, who has conducted cancer research for some time.

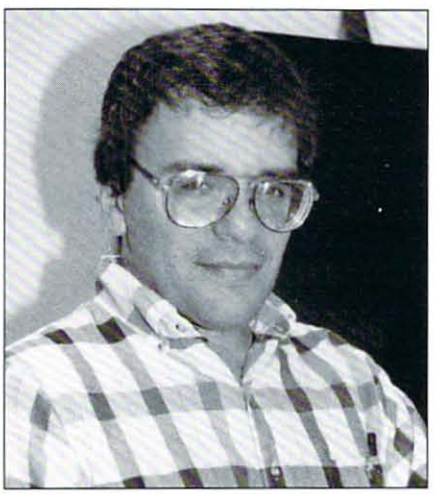
Specific types of human papilloma viruses (HPV), which cause genital warts, are thought to cause cervical cancer. Coker and Lucia Pirisi-Creek, M.D., the USC School of Medicine, recently studied the prevalence of HPV types 16, 18, and 33 in low-income, minority women in South Carolina. The prevalence of these types was surprisingly low; 20 to 30 percent of women with cervical dysplasia (pre-cancer) had these HPV types. Coker theorizes that other cancer-causing HPV types may be present in South Carolina women.

The South Carolina Cancer Center grant will let Coker and her

colleagues determine if another HPV type is present in South Carolina women. The information gained will be used to identify and treat women with these HPV types before cervical cancer develops. This research will tell them which HPV types are important in South Carolina women and what detection method or test can best identify cancer-causing HPVs.

David Essig, Ph.D., (EXSC), is principal investigator for *Regulation of Mitochondrial Gene Transcription in Transformed Cells*, which has been funded for $10,286.

Much of Essig's past research has dealt with how cells generate energy for aerobic (oxygen-producing) exercise. "My other research parallels this cancer research: one of the



David Essig

hallmarks of a tumor cell is that it has a high demand for energy, partly because of the high growth rate of cancer cells," he says.

When normal cells first become cancerous, the amount of proteins made inside the mitochondrion, which is the energy-producing apparatus of cells, increases greatly. This allows the mitochondrion to expand and make more energy for cell growth, Essig explains.

Other scientists have recently identified a gene in the cell's nucleus which makes a special "mitochondrial stimulator protein." It is theorized that the stimulator protein can tell the mitochondrion to synthesize more proteins.

"The purpose of this grant is to see if cells in the earliest stages of cancer express more of this stimulator protein. If cancer affects the gene which in turn makes the mitochondrial stimulator protein, it will help us to understand how the tumor cell is able to obtain more energy to sustain its rapid growth," says Essig.

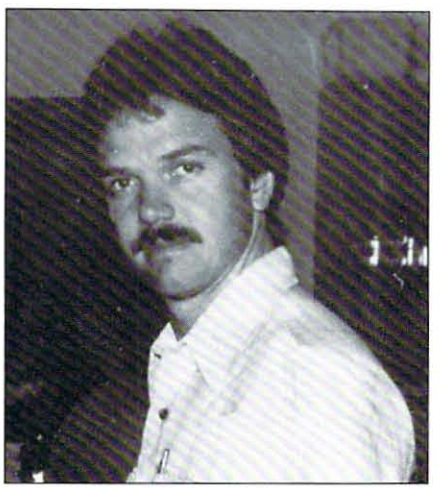
Essig is conducting this research with Lewis Bowman, Ph.D., USC Department of Biological Sciences. It is their hope that, in the future, it may be possible to block the stimulator protein to slow the growth of tumor cells. "Cancer is more of a developmental problem, an aberration of how cells grow and differentiate," Essig says. Decreasing the ability of the cancerous cell to generate energy may be one strategy to stop many types of cancer.

Rehabilitation

Mark Davis, Ph.D., (EXSC), is a co-principal investigator, along with principal investigator JoAnn Herman, Ph.D., associate dean for research and evaluation in the College of Nursing, and a group of investigators including Eugene Mayer, Ph.D., (Medicine),and Abdul Gaffar, Ph.D., (Medicine), for *Effects of a Comprehensive Rehabilitation Program on Functional Capacity, Mood State, Symptom Distress, and Immune Functioning in Women Receiving Chemotherapy for Breast Cancer*, which has received funding in the amount of $7,773.

The study will involve 60 women, age 35 and older, who are receiving postsurgery chemotherapy for breast cancer at Richland Memorial Hospital. Patients will participate in an aerobic exercise program and will receive instruction on stress management, nutrition, coping, and the proper use of medications. The program is very similar to cardiac rehabilitation.

"We hypothesize that these women will have improved functional capacity, more positive mood states, less nausea, and perhaps an improvement in their immune functioning after participating in the 12-week program," says Herman. She will develop a symptom distress scale and a functional status questionnaire to measure the patients' mood states and stress symptoms.



Mark Davis

Davis will oversee the exercise program and testing. "We hope to increase the women's fitness status, their sense of well-being and outlook on life, and most importantly their immune system function which may defend against further spread of the cancer," says Davis. "This type of program has been used successfully for patients with heart disease for many years, but it is very much a new idea with respect to cancer patients. New data from our lab and others suggest that physical exercise can increase the ability of the immune system to defend against the initiation and spread of cancer. However, there is essentially nothing known about the relationship between exercise and the immune systems in cancer patients."

HADM Alumnus Heads New Cancer Center In Columbia

Inside the Center for Cancer Treatment and Research of Richland Memorial Hospital, a light-filled atrium reaches up to touch a warm sky. The colors are soft and muted, and comfortably low chairs offer respite to the weary. A believer in New Age cures would revel in the sense of warmth and well-being within these walls. But make no mistake, a lot of high-tech healing goes on here.

The new $32 million Center for Cancer Treatment and Research is the first free-standing facility (for inpatients and outpatients) in South Carolina solely dedicated to cancer treatment and research. At six stories high and 170,000 square feet, it is among the largest cancer facilities in the Southeast.

Because the Center consolidates outpatient and inpatient services and houses 10,000 square feet of research laboratory space in the same facility, new research technology is brought directly to the bedside. In 1991, the Center treated about 1,000 new adult cancer patients and about 50 newly diagnosed pediatric patients. Through its tumor registry, the Center follows about 10,000 cancer patients from every county in South Carolina.

Since the Center's official opening last year, it has added several programs, including a new bone marrow transplant program that is one of only three or four specializing in mismatched transplants in the country. The Center is the only facility in the Midlands to offer high dose rate brachytherapy, a new type of radiation treatment. The Radiation Oncology Department was the first in the state to use computer virtual simulation in planning patient care. This department also uses stereotactic irradiation, a procedure involving a pencil-size radiation beam to treat tiny lesions in the brain. Patients in the Midlands who need this treatment must come to the Center because it is the first and only facility in the area to offer it.

Calvin Harrison

If there is a driving force behind the success of the Center, it is School of Public Health alumnus, Calvin Harrison. As vice president for administration at the Center, Harrison is responsible for the Center's more than 250 employees and for making sure the facility works and runs smoothly. Most of the time, he is consumed with thoughts about developing and planning the Center's future.

"Now that the Center has gotten off the ground and is doing such tremendous things, the challenge is to keep things moving forward," he says. "We are working very hard to keep our service issues and concerns at the forefront of our work while offering the latest in technology and research." With this driven and dedicated professional at the helm, there is little reason to worry.

When he completed his M.H.A. in 1990, Harrison had already lived several career lives. As a biology major at the University of Virginia, Harrison began working part-time in a hospital as an emergency medical technician in the emergency room. Later, he taught ninth grade earth science for a year and worked in respiratory therapy in a local hospital.

"Respiratory therapy was a relatively new field then, especially in small hospitals, and there was no formal training required," he says. Nevertheless, he decided to pursue formal training in the field at the University of Chicago. He soon became assistant director of respiratory therapy at a 1,100-bed hospital in Chicago.

In 1983 he moved to Columbia to become administrative director of respiratory care at Richland Memorial Hospital. While in that post, he served as state president for the South Carolina Society for Respiratory Care and was active in several community organizations. He also returned to school part-time, deciding to pursue an M.H.A. "I have always known that I wanted to work with people in service-type work," he says. "I felt that health administration would provide a broad base for what I wanted to do."

After he completed his degree, Harrison began working with Richland Memorial Hospital administrators to establish the Center. "I developed the plans for the transition and move into the new Center and helped to enlist the cooperation of and set up collaborations with USC. Once the Center opened, the challenge was to insure that things would operate to the degree we hoped."

There was also a drive to improve service. "We discovered new ways of providing services by listening to what our patients, physicians, and employees wanted and needed," says Harrison. "On the service spectrum to patients there are four areas of concern: education and prevention, diagnosis, inpatient/outpatient treatment, and home care."

(continued on p.11)

Leiyu Shi (standing), and Michael Samuels review ideas with a young physician for their new book, "Physician Recruitment and Retention: A Guide for Rural Medical Group Practice."

Faculty Wrote the Book on Physician Recruitment

Michael Samuels, Dr.P.H., (HADM), and Leiyu Shi, Dr.P.H., (HADM) have co-authored *Physician Recruitment and Retention: A Guide for Rural Medical Group Practice*, a book designed to guide rural communities in finding, hiring, and retaining general practitioners.

"The book is a combination of academic knowledge, survey research, and basic 'how-to'," says Samuels. "We've taken general recruiting techniques and applied them specifically to rural practice."

The book is aimed at physicians who want to attract more physicians to their rural group practice, and at rural communities that need to establish a group practice. A unique aspect of the book is its integration of data based on a national survey of the recruiting and retention strategies of rural medical group practices.

According to Jim Walker, (M.H.A., 1987), vice president of health and human resources for the South Carolina Hospital Association, the shortage of general practitioners in rural areas has long been a problem in South Carolina. "There is a tremendous shortage of physicians in most rural areas nationwide, and that shortage is especially acute in South Carolina," he says.

"We have a total of 46 counties in this state; of those, 42 are either partially or totally designated as a Health Professional Shortage Area, or HPSA," he explains. The HPSA designation is a physician-to-population ratio that is developed by the federal government using census tracts. "Many of the counties that are totally designated as a HPSA are the rural counties. It really is a major issue for the state as a whole."

To compound the problem, physicians in many rural parts of South Carolina are nearing retirement. Many of them have not been able to recruit new people to take over their practices. "The picture looks worse for the future unless something can be done to entice physicians to practice in these underserved areas," laments Walker.

Since the trend in medicine is toward specialization, says Samuels, fewer and fewer medical students are studying general medicine. And most of them are not considering rural practice.

Rural communities face several challenges when it comes to physician recruiting. These communities must recruit more creatively than larger urban practices and hospitals. "For example, a rural community that has a whitewater river can advertise for a physician in kayaking and fishing magazines," Samuels says.

Recruiting is made more complicated by the fact that two people must be recruited — the physician and the physician's spouse. Spouses will be interested in local employment and educational opportunities, among other things.

National trends play a part in the recruitment process, too. "More and more females are entering the medical profession. In fact, about 30 percent of today's medical students are women," Samuel says. "There is a good chance that a community will recruit a woman and her husband."

Successful recruiting is not the end of the process, however. "Retention is also important," Shi notes. "Three to five years is considered good for rural physicians."

The break point comes when a young physician's children go to school, says Samuels. "Schools in rural areas are typically of poor quality, and physicians want to move to an area with better schools."

Isolation is also a problem for rural physicians. "No young physician is going to practice by himself. That's why we emphasize **group practice**," says Samuels. "The book outlines

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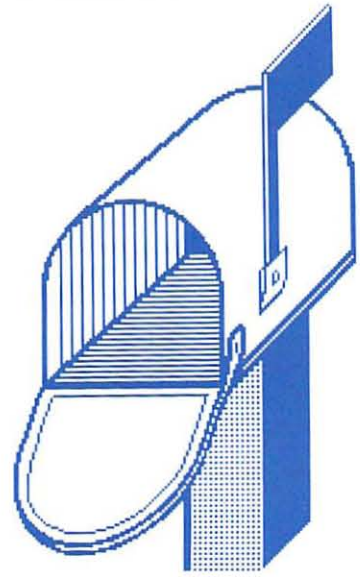
Keep us Informed



Alumni, please send us information about your job changes, research activities, honors received, and personal and professional activities. Send a recent photo whenever possible. Send your news to:

Lucy Hollingsworth
School of Public Health, HealthBeat
University of South Carolina
Columbia, S.C. 29208

Alumni Information Update

(Please complete and return.)

The School of Public Health is interested in knowing your news.

Please take a moment to answer and comment on the following questions so we can improve our alumni network. Did this magazine arrive with your correct name and address? If not, please help us.

Name: _____

Address: _____

Year of Graduation: _____ Program and Major: _____

Have you changed employment since we last heard from you? _____

Job title and position: _____

Employer: _____

Have any significant personal events occurred in your life? _____

Interdisciplinary Team Studies Groundwater Clean-Up

That old gas station around the corner served your neighborhood well for many years before it went out of business. Now there's an old Chevy for sale near it. A shopping center is being built next to it. Your children ride their bicycles past it.

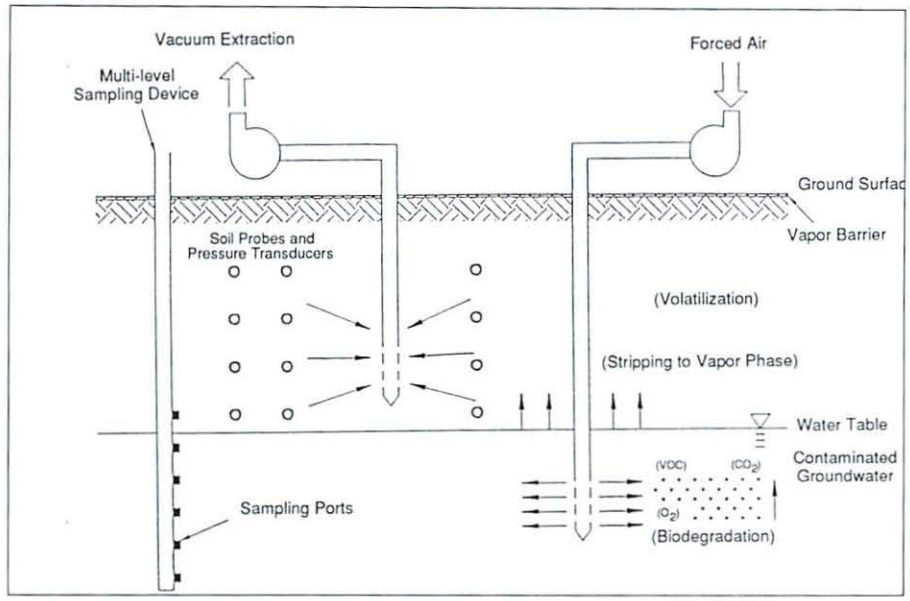
It's hard to believe that something as all-American as a gas station might also be an environmental hazard. But the silent emptiness of an abandoned gas station can belie a very serious problem: groundwater contamination.

Gasoline tanks built and installed in the 1950s and 1960s are at particular risk for leaking and contaminating ground water and surrounding soil. At the time these tanks were installed, their life span was 25 to 30 years. That's far less than the 40 years many of them have served.

It's just this type of groundwater contamination that has brought together researchers from the School of Public Health, the College of Engineering, and the Department of Geological Sciences to study a contaminated site in Columbia. This interdisciplinary team will be studying and participating in the clean-up of the Broad River Road site, which has been vacant since 1991.

Marjorie Aelion, Ph.D., (ENHS), Mark Widdowson, Ph.D., (Virginia Tech) Richard Ray, Ph.D., (Engineering), and Howard Reeves, Ph.D., (Geology) must cringe when they hear the old adage, "What you don't know can't hurt you." They know that groundwater contamination is a silent tainting, often unknown to nearby residents. No one was aware of the contamination of the Broad River Road site until some contiguous construction was begun.

"The site is unique and challenging," says Aelion. "The sediment is low permeability, which may make it more difficult to clean up, and there is some pavement at the site that we'll have to work around, too. But it's perfect for our needs, and in fact we selected it from among several in the state." This particular site had the characteristics required for the study: underground storage tanks, good accessibility, and low permeability soil.



Schematic of Pilot-scale Bioremediation System

The first part of the two-year grant, which is supported by a merging of South Carolina Department of Health and Environmental Control (DHEC) and Hazardous Waste Management Research Fund monies, is to study the site and design the air sparging system.

"The idea is, of course, to clean up the site," says Aelion. "But we are also doing groundwater monitoring and some modeling, and we have done some coring to get sediment samples. I'm looking specifically at analytical chemistry and the microbiology of those samples."

Mark Widdowson, the original principal investigator, will help design the system; Richard Ray is currently the P.I. on the project. His major responsibility is in measuring soil properties and general site characteristics with respect to the soil layering. He is also involved in the well design.

Howard Reeves is interested in subsurface modeling and in how groundwater moves. He will use computer models to help analyze data and to aid in the remediation design.

After the field study is complete, Aelion and her colleagues will be involved in the second part of the research project: cleaning the most concentrated zone of contamination using a combination of air sparging and bioremediation.

"Air sparging is a relatively new technique in which air is injected beneath the water table at a site. The resulting air bubbles help strip contaminants out of the water. Those contaminants will then be sucked out with a vacuum," says Aelion. "We hope to design and put in the air sparging system and a multi-level monitoring system in year two." Soil vapor extraction, a technique that performs the same type of removal above the water table, is normally used for a clean-up of this kind.

DHEC is working closely with the USC researchers. "They have donated their time and sampling rig and

(continued on p.14)

Pate To Head American College Of Sports Medicine

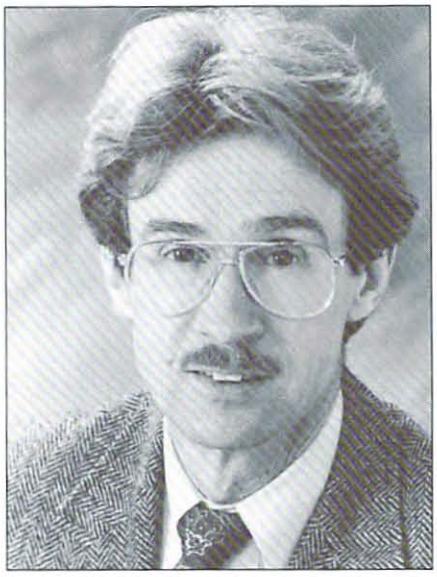
Russell Pate, Ph.D., (EXSC), will be installed as the national president of the American College of Sports Medicine (ACSM) in June. The ACSM post is an elected position chosen by the College's more than 13,000 national and international members.

The president's gavel will be passed to Pate during a banquet at the College's annual meeting, which is being held in Seattle this year. As president, Pate will head the ACSM board of directors and executive committee. He will also be responsible for seeing that the organization acts on and maintains its strategic plan.

Founded in 1954 by a group of 11 physicians, educators, and basic and applied scientists, the ACSM is the oldest and largest sports medicine and exercise science association in the world. According to its mission statement, the ACSM's goal is to promote and integrate scientific research, education, and practical applications of sports medicine and exercise science to maintain and enhance physical performance, fitness, health, and quality of life.

"ACSM is a unique organization because it is an interdisciplinary scientific society," says Pate. "Its membership is made up of about one-third medical doctors, one-third basic exercise scientists, and one-third related allied health and education professionals. This variety is certainly one of our strengths, but it also presents a challenge: we must make sure each of these groups plays an equal role in the governing of the organization and that each group has its needs met through the organization."

The ACSM post will allow Pate to promote some of his personal research interests. "As president, you do have the opportunity to put your own stamp on things. I am working hard right now on two initiatives. One will result in the ACSM being much more active in public policy activity. We feel the government should be more active in promoting exercise. I also have a long-standing interest in exercise for children and we have recently established a committee on pediatric exercise."



Russell Pate

Gail McDaniel, director of public information for ACSM, believes that Pate's long-standing interest in exercise for children is one of the strengths he will bring to the presidency. "Russ has a great interest in youth fitness, which is such an important part of the future of the United States and of the world," she says. "He also has excellent leadership capabilities. He will continue a long strain of excellent leaders that the College has had."

Dianne Ward, Ph.D., (EXSC), one of Pate's colleagues and an active ACSM member, knows the importance of having the ACSM national president among the University's faculty. "The ACSM is the premier international sports medicine organization," she says. "Russ has world-class marathon skills, he created the Carolina Marathon, he came very close to qualifying for the Olympics, and he has been involved in countless research projects. In terms of impact on the world, being ACSM president is far greater than anything he has ever done."

Davis To Serve As Regional President

Mark Davis, Ph.D., another member of the Department of Exercise Science, is taking an active leadership role in the Southeast Regional Chapter of the American College of Sports Medicine.

Davis began his tenure as chapter president at the chapter's annual meeting on January 28. The three-day meeting was held in Norfolk, VA, and was attended by about 550 of the chapter's 1,100 members.

As president-elect, Davis was responsible for planning and coordinating this year's annual meeting. As president, Davis will help plan for next year's meeting and will work closely with the national ACSM organization on some joint projects.

Physician Recruitment (from p. 7)

techniques for helping the physician feel like part of a bigger picture, such as making sure he is involved with a nearby hospital and the state medical association."

Samuels and Shi believe they were selected to write the book because of their knowledge of the field and previous publications on the subject, and because they could produce the book in a relatively short time. It is one project in a long line of collaborations for them and they have plans for several more.

Physician Recruitment and Retention is being published by the Medical Group Management Association Press and may be available as early as this summer.

Charlotte Laverick

New Faculty Member Joins SPAD

The Speech Pathology and Audiology Department welcomed one of its former adjuncts to the Department as a clinical instructor on January 4.

Charlotte Laverick, M.Ed., CCC SLP, specializes in adult and pediatric traumatic brain injury (TBI), and neurogenic speech disorders. At USC, Laverick will teach, supervise students in the Speech and Hearing Center, and coordinate other practicum sites for students.

"Speech pathology is a very rewarding field," says Laverick, who received undergraduate and graduate degrees in speech pathology from the University of North Carolina-Greensboro. "My previous responsibilities have included infection control, budgeting, and policy making. The most rewarding part, however, is the actual one-on-one contact with people. That's why the University position was a big draw for me. It offered the opportunity to work closely with people — clients, colleagues, and students."

From 1990 until shortly before she came to USC, Laverick served as the Lead Speech Pathologist at Mercy Rehabilitation Center in Charlotte, NC. In addition to her many administrative responsibilities, she presented in-services on Dysphagia, protective intervention, and effective communication. She also served on the head injury team.

From 1987 until 1990, Laverick was Director of Speech Pathology at Elliott White Springs Hospital in Lancaster, SC, where her responsibilities included yearly budget preparation, overseeing the quality assurance team, and working with children and adults with a variety of disorders. Prior to that, she served as a speech pathologist for the Charlotte/Mecklenburg public school system.

Laverick will rely on this professional background to carry out her duties at USC. In addition to teaching and supervising, she will also work with several state and local agencies to coordinate therapy for TBI patients. Because these patients often suffer from memory deficit, have an inability to understand information, and have problems returning to their work, community re-entry therapy is essential.

"It's all well and good if someone with TBI is re-taught how to do something in therapy," she says. "But if they are not able to carry over those skills, such as going to a bank and opening a checking account, then we have not provided a well-rounded therapy program."

SPAD-faculty member Elaine Frank, Ph.D., and Laverick are already at work on collaborative projects. Their government-funded TBI grant allows 10 students to train in the area of traumatic brain injury. The goal of the program is for each student to earn a TBI certificate.

The future looks bright for Laverick. "In five years, I hope to be working at USC specifically in the pediatric and adult TBI area. I'd also like to see the grant program produce really well-trained students and to connect with other TBI programs across the country," she says.

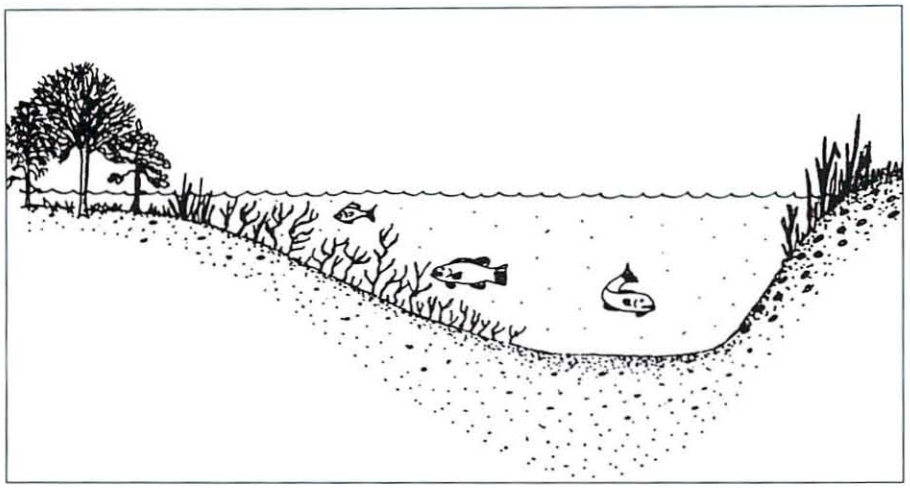
In the meantime, she will be content to enjoy her new position and to continue her favorite past-times: water sports, reading, and traveling. She and her husband, Blaine, are expecting their first child this summer.

Harrison (from p. 6)

Harrison's responsibilities include working closely with the South Carolina Cancer Center, a USC-Richland Memorial Hospital collaboration managed by of four representatives from each institution. The group's goal is to insure that both institutions are focusing together in the direction of cancer research. Four School of Public Health faculty members were recently awarded research grants through the South Carolina Cancer Center.

Harrison often struggles with his heavy involvement with the Center. "I never really thought of being labeled as a cancer center administrator, and yet it is easy to get so involved in something that is this meaningful," he says. "Because of the advanced scope of the programs the Center is bringing in, the city, the state, and the University will be enhanced. When patients say, 'I'm going to Columbia, South Carolina, for cancer treatment,' that really means something."

Lake Marion Study Will Predict Consequences of Water Resource Management Alternatives



South Carolina is blessed with an abundance of water resources, both natural and man-made. Though we delight in these resources and enjoy them year-round, water resource management is probably not a topic we discuss at parties. In fact, we seldom think about how our lakes are managed, or what might happen if different management scenario's were implemented. Thankfully, Hank McKellar, Ph.D., (ENHS), and his colleagues think about it a lot.

McKellar and School of Public Health students Dan Tufford and Valli Sudarshan are working with South Carolina Department of Health and Environmental Control, the United States Geological Survey, and the Santee-Cooper Public Service Authority to create a computer simulation model to help evaluate water quality management schemes and lake management alternatives for Lake Marion, SC. "The goal of the project is to provide a tool for the state's technical support teams to help plan long-term water quality management," says McKellar.

The first phase of the project is to use existing data that the state and federal agencies have collected over the past 10 years to develop a computer model. "In the final stages (year three) we will use the model to forecast changes in the lake's ecosystem that may result from different management changes. A computer model is useful because it allows you to account for many interacting variables that affect water quality and the aquatic ecosystem." McKellar said.

In 1982, Lake Marion was classified as "eutrophic" by the National Eutrophication Survey and the S.C. Clean Lakes Survey. The term means that the lake has too many nutrients, creating too much vegetation and impaired water quality. This information, combined with the recent fish kills that have occurred in the lake, suggest considerable stress on the lake's aquatic ecosystem.

"The lake is shallow — an average of four meters deep — and there has been lots of aquatic growth there lately, which inhibits and restricts water and boat movement," says McKellar. "Plants grow to the top of the water, and only an air boat can go through in some places. Last year a large mass of aquatic vegetation broke free and clogged a power plant intake valve. The power plant had to be shut down, which led to a large fish kill downstream."

McKellar says the water quality problems in the lake are due to many factors, including run-off. "Part of the goal of this study is to develop mathematical models to help us identify these factors," he says.

The Santee-Cooper Lakes — Lake Marion and Lake Moultrie — are located in the lower part of the state, between Columbia and Charleston. Lake Marion is the biggest of the sister lakes; it is also the biggest lake in South Carolina. At 110,000 acres, Lake Marion is large enough to have widespread implications. "It is South Carolina's largest reservoir and it represents a valuable resource for hydroelectric power generation, flood control, and fishery production. The Santee River Basin is either the second or third largest river basin to empty into the Atlantic Ocean," says McKellar. In addition, the tourist industry based on the Santee-Cooper Lakes was recently valued at more than $150 million a year.

According to John Inabinet, Supervisor - Water Quality Management for the Santee-Cooper Public Service Authority, the lakes were primarily constructed for the generation of hydroelectric power, navigation, and reforestation. "Lake Marion is without question the state's most important surface water resource," he says.

The Santee-Cooper Public Service Authority is the publicly-owned utility that manages the lakes. "There are lots of different uses of Lake Marion, ranging from hydroelectric power, navigation, recreation, boating, fishing," says Inabinet. "Major challenges in managing the lake come in trying to handle these diverse demands."

As part of the study, two sources of run-off will be evaluated: point source, from wastewater treatment plants, which is relatively easy to control; and non-point source, from urban and agricultural areas, which is more difficult to control.

Designed as a three-year study, "An Ecologic-Water Quality Model of Lake Marion, SC" was officially begun in August 1992. McKellar predicts that much of the baseline work will be done this spring and summer.

Summer CommuniCamp Planned

Summer vacations are a mixed blessing for speech and language pathologists who work in the schools. On the one hand, these professionals are glad for the chance to rest and recharge. On the other hand, they fear that many of their students will take a step backward during those three months.

Because speech and language affects reading, socialization, and other academic skills, it is crucial that children maintain their progress. To help them (and their therapists), faculty in the Department of Speech Pathology and Audiology have created a communications camp that will bridge the summer gap.

"CommuniCamp's mission is to provide opportunity for concentrated communication skill development in a pragmatic, supportive environment," says Speech and Hearing Center Director Judy Bishop, Ph.D., CCC-SLP, (SPAD).

"There is a risk of regression for these children during the summer, when they are out of school and out of therapy," says Charlotte Laverick, M.Ed., CCC-SLP, (SPAD). "Continued therapy during the summer prevents this regression. It not only maintains their skills, but it also improves them."

CommuniCamp offers two options to parents and their children. The first option targets six- to eight-year-olds who have a variety of speech and language disorders. These children are selected by referral from area schools and through media advertising; some are clients of the USC Speech and Hearing Center. Coordinators are expecting close to 30 students to join them during CommuniCamp, which is a tuition-based program that accepts Medicaid.

The camp will begin with an intensive, two-week speech camp. "From June 14 through June 24, we will conduct an all-day camp with field trips and speakers from the community. The idea is to combine the benefits of a group setting and the resources of the community,"

The theme for the first week is nature, animals, and music. "We'll learn about animals and go to the zoo. We'll work with Department of Exercise Science graduate students doing some motor activities," says Laverick. "The second week will focus on community helpers and neighbors. A fireman and a policeman will speak to us, and we'll go to the library."

The second camp option, offered June 28 to August 5, will focus on different types of small group therapy for all ages. A phonology group, language group, augmentative communication group, and stuttering group will come to the Speech and Hearing Center two to three times per week during this six-week period.

Everyone involved in CommuniCamp will reap the benefits. Faculty and graduate students from the Speech and Hearing Center will learn from the experience, the participating students will learn in a new environment alongside their peers, and the school speech and language pathologists will be assured of their students' continued improvement over the summer.

Parents interested in registering a child should call the Clinic at 777-2614 and must supply a current IEP from their school speech pathologist.

Stoskopf Selected as ACHESA Fellow for 1993

Carleen Stoskopf, Sc.D., (HADM) has been chosen to serve as one of four Fellows for the Accrediting Commission on Education for Health Services Administration (ACHESA) for 1993.

As an ACHESA Fellow, Stoskopf will coordinate site visits and will review student records, curricula, and facilities. She will also write a draft of the final accreditation report to the ACHESA Board of Commissioners.

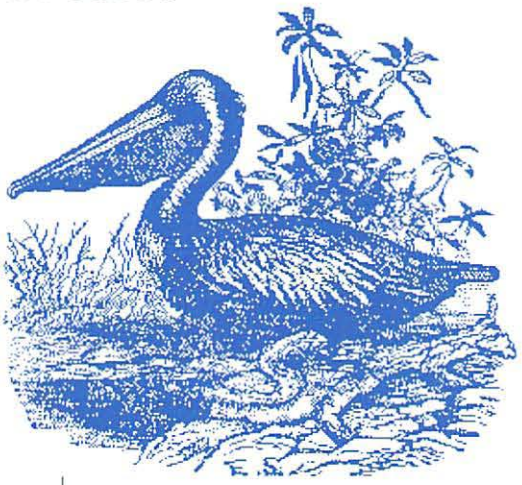
Stoskopf will be involved in three site visits this year - The University of Montreal, Boston University, and the University of Alabama. "At the University of Montreal, the health administration program is a part of the School of Medicine; Boston University's is within the School of Management; and the University of Alabama at Birmingham has its program within a School of Health Related Professions," she says. "It will be very interesting to see these three programs and how they are impacted by their various surroundings."

After reading four self-study volumes and analyzing reams of other papers, Stoskopf made her first site visit to the University of Montreal on March 23.

"I arrived at the site a day before the other two members of the site team to review student records, faculty minutes, facilities, and budgets. One of the most critical aspects of accreditation is curriculum, and I looked very closely at that," says Stoskopf. "I met with the site team that night to tell them what I found. During the next two days, we conducted the site visit, meeting with faculty, students, alumni, and

(continued on p.17)

Symposium Addresses Critical Coastal Issues



Each year, scores of people move to the Southeastern coast to enjoy its pristine beauty and idyllic climate. Their migration will, naturally, precipitate some change in the area. But if the predictions hold true and 75 percent of the U.S. population lives within 50 miles of the coastline by the year 2000, the changes in these coastal areas will be extreme.

"Our coast is so attractive to people because they like to walk out their back door and gather their own crabs and oysters on a beautiful stretch of beach," says School of Public Health Dean Winona Vernberg. "But you can only do this as long as environmental quality remains high.

"If we are to preserve our resources, we need to know how the observed explosive population increases along our coast will affect animal populations, land erosion, runoff, and other vital issues," continues Vernberg. "We must address the problem now by asking ourselves a crucial question: How will we preserve the very thing these people are coming here for?"

Vernberg and her peers addressed this question during an interdisciplinary symposium, "Sustainable Development in the Southeastern Coastal Zone," held March 2-5 at Myrtle Beach. The symposium was sponsored by the USC School of Public Health, the Baruch Institute at USC, and the National Marine Fisheries Service in Charleston, S.C.

Fifty-four people attended the symposium, including environmental experts from USC and other organizations. Several USC students presented poster sessions. Speakers included G.R. Best of the University of Florida's Center for Wetlands, E.P. Odum from the University of Georgia, Ruth Patrick of the Philadelphia Academy of Sciences, Orin Pilkey from Duke University, and William Swartzkopf, planning director for the Waccamaw Regional Planning Council.

"Our goal in attending the symposium was to discuss the development standards for coastal areas, particularly the area we represented — Georgetown County, South Carolina," says Swartzkopf. "We also wanted to interact with the scientific community to find out how we can dovetail our development regulations with the environment's needs."

Don Scavia, director of NOAA's Coastal Ocean Program and a symposium speaker, also believes in a cooperative effort. "The best way to deal with sustainable development is to do it in a proactive way, to prevent problems," he says. "This is why we funded the workshop: to explore the relationship between economic development and environmental stability with respect to the potential urbanization of the Southeastern coast. We want to be able to fund the right kind of science to help plan development in this area."

The Southeastern coastal zone includes the coasts of North Carolina, South Carolina, Georgia, and North Florida. Historically, most coastal growth in the U.S. has been industrial; this growth has been studied and documented. The growth along the Southeastern coast, however, is primarily urbanization; it presents new, unexplored problems.

Other symposium issues included population trends and policy overviews from federal, state, regional, and local entities. The environmental impact of urbanization on the Southeastern coastal zone was discussed from the viewpoint of eutrophication, toxics, wetlands, fisheries, water resources, public health, and environmental economics.

"Overall, the symposium gave us the chance to truly synthesize what we know so far about preserving our Southeastern coastal resources and where we need to go in further studies," says Vernberg.

Groundwater (from p. 9)

other equipment to the project. They are very interested in the work," says Aelion. "In the end, DHEC will have to decide if this is a good remediation technology for this type of geology."

Because this type of underground contamination is becoming recognized as a serious problem all across the country, today's fuel tanks have leak detection systems and are built to last longer. By law, fuel tanks installed in some states, such as Massachusetts, must be installed above ground.

With more stringent codes such as these, Aelion says, serious contamination can be avoided in the future. For now, however, we must rely on the success of air sparging and other remediation techniques, and on the dedication of researchers like Aelion, Ray, Reeves, Widdowson, and their students and colleagues.

SPHA News

The fall semester was very busy for SPHA. We began the school year with a successful new student orientation in August, highlighted by an upbeat wine-and-cheese social. Our next social activity, a picnic on the scenic Horseshoe, was well attended ... even by Dr. Palms and his dog, who were out for their Sunday walk! Jim Hussey, Ph.D., (EPID and BIO) organized the first volleyball game of the semester. We had a great time with relatively few casualties, only a few bruised egos.

October brought Halloween and the annual SPHA Halloween Party, held a Jane Mezoff's house. November was a busy month for all of us, with exams and papers due before Thanksgiving. Somehow people found the time to organize and participate in the Harvest Hope food drive. Thanks to the generosity of School of Public Health students, faculty, and staff, we collected several large containers of food and delivered them to Harvest Hope Food Bank.

December 1, 1992 was WHO World AIDS Day. SPHA members played an integral part in campus activities. The events included a panel discussion in the Russell House, a "Business Responds to AIDS" teleconference, and an information table staffed by volunteers. At this table, located outside the Russell House, School of Public Health students, faculty, staff, and alumni handed out brochures and encouraged safer sex by distributing over 5,000 condoms to the University community. As the fall semester came to a close, we celebrated the holiday season by sponsoring a Christmas family through Carolina CARES.

Although spring semester has been a little less active, SPHA sponsored our first academic event of the year in March. Dr. Ronald Maris, a nationally-recognized expert on suicide, presented a lunch-time seminar on suicide as a public health problem. Other activities planned for the semester include a mid-semester celebration, and a springtime service project.

By far the most important activity of the spring semester was elections. SPHA would like to congratulate the members elected to office for the 1993-1994 school year:

President: Marlisa Febbriello (HPRE)
Vice President: Krista Heybruck (HPRE)
Secretary: Scott Winnail (HPRE)
Treasurer: Tim Cowan (EPID)

These four people bring a lot of energy and enthusiasm to their new positions and will do an excellent job of planning and promoting SPHA activities.

I would also like to thank my fellow officers from this past year: Cin Chambers, Lisa Lindley, and Laura Valleni, for all their hard work and advice. The organization would not have seen the successes it did without them.

SPHA is still going strong, with plenty of opportunities for involvement. Please check the bulletin board outside the student services office or the board in the second floor lounge for a schedule of events. It's one way to make the large USC community a little bit smaller.

Bill Scott
SPHA President
1992-1993

Study Links Primary Care with Longer Life Span

A nationwide study conducted by Leiyu Shi, Dr.P.H., (HADM), has found a direct link between the number of primary care physicians practicing in a state and the health status of that state's population. In other words, Shi found that the more general practitioners a state had, the healthier its people were and the longer they lived.

"Primary care promotes a longer life span because it emphasizes prevention. Time of contact is crucial: primary care providers such as general practitioners generally intervene at an early stage," says Shi. In contrast, specialty providers such as surgeons come in contact with a patient at a later stage in the illness.

Shi's study sought to answer a critical question: What are the determinants of health status? To find answers, Shi examined the relationship between the number of primary care physicians and mortality rates from cancer, heart disease, and stroke. While studies of this type have been done before using local data, Shi's is the first to examine the entire United States population at the state level.

The study revealed that Hawaii, considered one of the healthiest states in the nation, had a high proportion of primary care physicians: 7.3 physicians to every 10,000 people. Mississippi, a state with poor health status, had the lowest proportion: 4.3 primary care physicians to every 10,000 people.

Shi's study also revealed that higher numbers of primary care physicians are linked with lower infant mortality rates due to better

(continued on p. 17)

Some Current Thoughts on Diet and Disease Prevention

by Roger Sargent, Ph.D.

Roger Sargent is a professor in the School of Public Health's Department of Health Promotion and Education specializing in public health nutrition. He has a Ph.D. in biology and has for the past several years specialized in the relationship of nutrition and human health.

Substantial experimental evidence indicates that metabolic by-products known as free radicals are associated with the aging process, cancer, arteriosclerosis, cataracts and immunity. Free radicals are toxic compounds containing one or more unpaired electrons produced during cellular metabolism that may be injurious to cells if not captured by an antioxidant. Oxygen free radicals include superoxidants, hydroxyl, peroxyl and a variety of associated compounds. Their damage is expressed in alterations in cellular mitotic activity, slowed tissue repair, and/or lesions resulting in chronic disease or processes that do not allow maximization of life span.

The most common dietary components having documented antioxidant qualities include Vitamin E, Vitamin C, and B-Carotene. B-Carotene is converted in the body to Vitamin A. These nutrients have been shown in numerous studies during the past decade to have a protective effect against our some most common causes of morbidity and mortality.

Table I The Antioxidants

Nutrient	Recommended Intake (RDA)	Good Food Sources
B-Carotene "Vitamin A"	None For B-Carotene 1000 R.E. males* 800 R.E. females	Spinach Carrots Cantaloupe Squash
Vitamin E	10 mg/d males 8 mg/d females	Vegetable oils Peaches Asparagus Peanuts
Vitamin C	60 mg/d	Cauliflower Broccoli Strawberries Citrus fruits

(RE = Retinal Equivalents)

*RDA for Vitamin A Beta Carotene is 1/6 as active as preformed Vitamin A in absorption and conversion to active Vitamin A.

Cancers

Free radicals appear to play an important role in initiation and promotion of carcinogenesis. The anticarcinogenic action of Vitamins E, C, and B-Carotene has a growing body of literature to support their protective effects. Over 50 studies have documented the risk reduction effects for certain cancers of diets high in B-carotene. Over 40 studies suggest protective effects from vitamin C.

Cardiovascular Disease

There is increasing evidence that free radicals are associated with the process of atherosclerosis. Particularly important are the recent findings indicating that oxidized low density lipoproteins (LDL) can contribute to arterial fatty streaks and plague formation. Diets high in B-Carotene, Vitamin C and Vitamin E have each been shown to contribute a protective effect against cardiovascular disease. While the protective activity of each of these nutrients may differ in mode of activity, few nutritionists would disagree with the argument that diets high in these nutrients reduce risk for cardiovascular disease.

Other Protective Effects

Photochemical generation of free radicals is theorized to contribute to the onset and progression of human cataracts. Lower dietary intakes of Vitamin C, E, and B-Carotene have been reported in cataract patients when compared to matched cataract-free subjects.

The antioxidants have also been shown to enhance immune functions including tumor resistance, infectious disease in the elderly and general immune responsiveness with aging.

Table one shows the recommended quantities of the previously mentioned antioxidants. The antioxidants are most commonly found in the fruit, vegetable food groups giving credence to the national promotion of the 5-A-DAY program which suggests that we consume 5 servings of fruits and/or vegetables per day. There is growing evidence that supplements might be advisable to certain high risk groups such as smokers.

Two HADM Students Receive Yates Scholarship

This year, for the first time, there were two recipients of the Susie James Yates award for excellence in scholarship. Laurie Ashmore and Jerry Griffin, both second year students in the Department of Health Administration, were awarded the fourth annual Yates scholarship during the South Carolina Hospital Association's annual meeting on January 15, 1993.

Each student received a plaque and a check for $500, given by the Department of Health Administration in memory of Susie James Yates, mother of William Yates, President of the South Carolina Hospital Association.

The Yates scholarship recognizes excellence in scholarship, demonstrated superior potential for leadership, and a substantial commitment to the field of health administration. It is a symbol of the commitment of the Department of Health Administration and South Carolina's hospitals to ensure excellence in hospital administration. Funding for the scholarship comes from hospitals, alumni, faculty, and other friends and organizations.

Laurie Ashmore

Jerry Griffin

Primary Care Study (from p. 15)

access to prenatal care, and that a higher number of hospital beds is not associated with a lower death rate or a longer life span.

"In general, the results show us that mortality has little to do with medical care, and more to do with environment," says Shi. "Primary care is becoming more and more important. It is more cost efficient and it saves more lives.

"The findings also show that if the nation can shift dollars toward general care and can focus on maternal and child care and other health issues, then we are more likely to reduce the chance of cancer, and other diseases," he says. "If nothing else, these results should re-affirm people's confidence in primary care."

Stoskopf (from p. 13)

administrators to clarify and verify the written information."

"After the visit and after an intense meeting with the other members of the site team, I wrote a draft of the final report and will recommend accreditation, re-accreditation, or removal of accreditation," she says. "Once the final report draft was approved by the entire site team, the full board of commissioners must approve it."

Understandably, the task of being an ACHESA Fellow is sometimes a daunting one. "There is a huge time commitment, and a lot of travel," admits Stoskopf. But the hard work is overshadowed by the importance of the accreditation process. "Since our health administration program has been accredited, our pool of applicants has improved. They come from all over the country with better GRE scores and GPAs," says Stoskopf. "Good students want to be recognized as graduates of an accredited program."

Currently, only about 62 of the roughly 300 health administration programs in the U.S. are accredited. The Health Administration Department at USC, accredited by ACHESA in 1991, will undergo another site visit in the spring of 1994.

"Being an ACHESA Fellow is definitely a learning experience," she says. "The Commission chooses Fellows who have academic experience but who still have fairly young careers. This gives us years to apply what we've learned to our own program. Being a Fellow also shows a commitment to quality higher education. I'm pleased to be a part of that."

Manning Foundation Sponsors New Research

The Manning Foundation is sponsoring two new research projects within the School of Public Health.

Study of the Mitochondrial Gene in a Transgenic Animal, a proposal submitted by David Essig, Ph.D., (EXSC), was chosen by the Manning Foundation selection committee as the best faculty submission. The study will attempt to discover the mechanism by which endurance exercise induces the expression of a specific mitochondrial gene, called *cytochrome c*.

"Cytochrome c functions in the electrontransport chain of the mitochondrion, which is the energy-producing apparatus of cells," says Essig. "We believe there may be a specific factor that, when stimulated by exercise training, causes this gene to be switched on."

The work is significant, Essig explains, because there is virtually nothing known about how exercise can affect the expression of any mitochondrial gene, of which there are approximately 100.

"We will use the Manning Foundation money to produce several lines of transgenic mice. These mice will have an extra copy of the cytochrome c gene engineered to allow analysis of its transcription. The idea is to be able to study this gene in the context of the whole animal," Essig explains. The mice used in this study can be continually bred to create more subjects for future studies, particularly in the areas of cancer and anemia.

Correlates of Functional Status Among Non-Institutionalized South Carolina Elderly, a proposal submitted by HADM graduate student James Ciesla, was chosen by the Manning Foundation selection committee as the best graduate student proposal. The study, which will serve as Ciesla's dissertation research, is concerned with the functional impairments of South Carolina elderly and the implications of these impairments on long-term care. Functional impairment is measured on a scale of basic daily living tasks — such as bathing, dressing, transferring from bed to chair — which are indicators of a person's need for assistance.

"I hope to determine, by dataset, which group of elderly will require what type of long-term care," says Ciesla. "Long-term planning of care can include community long-term care, transitional living, or nursing home care. I'd like to be able to identify specific needs within specific groups."

Ciesla is using a dataset compiled by the South Carolina Long-Term Care Council to identify these specific elder groups. His goal is to find services that are best for each elder group. "For example, adult daycare may be best for urban elders, whereas rural elders may need transitional living," Ciesla says.

"Using this information, the state and other agencies will be able to better understand the elderly and offer them appropriate long-term care," says Ciesla. "It will be used in policy analysis to help predict or otherwise plan for long-term services in the state."

Five ENHS Alumni Pass Certification Exam

Five alumni from the Department of Environmental Health Sciences have taken and passed the 1992 American Board of Industrial Health's Certification Examination to become Certified Industrial Hygienists.

Corey W. Briggs, Joel R. Jones, Kathleen E. Maguire, Steven W. Skipper, and Jeffrey S. Contardi have passed the rigorous, two-day-long, comprehensive examination to become fully certified as Industrial Hygienists.

"The pass rate for the certification exam is not very high; about two-thirds of the people who take it fail to pass it," says Dwight Underhill, Sc.D., (ENHS). "Five of our graduates passed the exam last year, which is very good. It is quite a thorough exam, and not everyone is brave enough to try it."

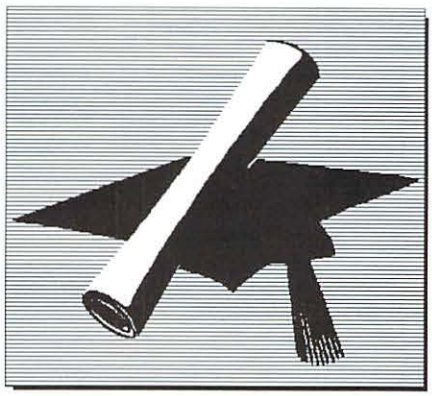
Passing the test, according to Underhill, increases an industrial hygienist's prestige in the field and almost always means an increase in salary. Many employers look exclusively for certified applicants.

To be eligible to take the exam, a candidate must have a college degree and at least five years full-time experience as an industrial hygienist. The candidate must also be currently working full-time as an industrial hygienist.

The test itself includes a wide variety of questions about many different areas of industrial hygiene, including ventilation, local exhaust systems, sampling, ionizing and non-ionizing radiation, environmental controls, personal protective equipment, toxicology, ergonomics, dermatoses, and management.

"At first glance, the test looks like a series of Trivial Pursuit questions," laughs Underhill, who has taken and passed the exam. "But if you are walking through an industrial plant and see employees doing something in a procedure that is wrong and potentially dangerous, you need to have access to all this seemingly trivial information. It will guide you in your decision to go over and investigate."

The School of Public Health wishes to congratulate all our alumni who have passed the ABIH Certification Exam. Best wishes for continued success in your careers.



Alumni News

1976

Greg Alexander, MPH, ScD, (HADM), is the Chair of Maternal and Child Health at the School of Public Health, University of Minnesota. He is also directing a multi-island perinatal surveillance project in the Caribbean, sponsored by the French Ministry of Education. The project is co-directed by Thomas Hulsey, (MSPH from USC in 1976).

1978

Dee Dee Vernberg , MPH, (HPRE), and her husband Eric (son of Dean Winona and Dr. John Vernberg) have a new baby boy, Stefan Alexander Vernberg, born March 13, 1993.

1979

Laura Stapleton, MPH, (ENHS), married Geoffrey Baker on December 10, 1992 at Valley Forge, Pa.

1981

Stephen Gardner, MPH, (EPID), and his wife Jill have a new baby boy, Grant Nicholas Gardner, born January 11, 1993.

1983

Art Farreira, MPH, (HADM), is a lieutenant commander, health care administrator in the U.S. Navy. He was married in November 1990.

Clair Dobson Schmelzer, MSPH, PhD, (HPRE), is the program director for Hospitality Management in the College of Human Environmental Sciences in Richmond, KY.

1986

Idelia Proctor Phillips, EdD, (HPRE), is senior scientist-technology transfer at Westinghouse Savannah River Company. She received the Total Quality Achievement Award (the highest award presented by the company) for 1992.

1988

Roger A. Cook, MPH, (HADM), is the administrative officer for the Department of Family Practice and Family Medicine Residency Program at Martin Army Hospital in Fort Benning, GA.

Shika M. Sinha, MSPH, (EPID), is director of statistical programming for the Belethen Group, Clinical Trial Support Services, Research Triangle Park, NC.

1992

Marie-Louise Miesel, MS, (EXSI), is an exercise physiologist with Earlanger Medical Center.

Elizabeth M. Scott, MHA, (HADM) is a board member for Carolina Home Health Care. Scott was last year's recipient of the Susie James Yates Award.

Katherine (Kitty) E. Thornton, MPH, (HPRE), is the employee wellness coordinator at Richland Memorial Hospital.

Ten students along with Elaine Frank, Charlotte Laverick, and Karen Mullis, enjoyed a luncheon at Faculty House. The event was in celebration of the completion by five graduating students of their TBI (Traumatic Brain Injury) certificates. *(See p. 11 "New Faculty Member" for an explanation of the TBI program.)*

School News

Presentations and Other Activities

Ann L. Coker presented "Effect of injury severity on police involvement in incidents among violent intimates," at the American Society of Criminology, New Orleans, Nov. 1992.

...received a grant of $4,000 for "Preventing sex offending by emotionally disturbed children" from the South Carolina Continuum of Care for Emotionally Disturbed Children.

...L. Parisi and M.S. Busnardo received $10,800 from the South Carolina Cancer Center for "Collaborative investigation of HPV prevalence among South Carolinians."

...G.R. Jenkins, M.S. Busnardo, J.C. Chambers, and L. Pirisi presented "Human papillomaviruses and the pre-invasive cervical cancer continuum in low-income South Carolina residents," at the American Association of Cancer Research annual meeting in San Diego, May 1992.

C. M. Connell, M.P. Gallant, **Patricia A. Sharpe**, and W.K. Davis, presented "Predictors of depression among adults with diabetes: A social cognitive model," at the Gerontological Society of America meeting in Washington, D.C.

L. Parisi-Creek, K.E. Creek, **Ann L. Coker,** and J.R. Patton received $50,000 from the South Carolina Cancer Center for "The Cervical Cancer Program of the South Carolina Cancer Center."

David Essig received $3,000 for a Research and Productive Scholarship Award to study "Regulation of mitochondrial gene expression in cultured cells."

David Essig

Elaine M. Frank, James Lemon and Michael VanLue presented "Training manual for detection of smokeless tobacco induced oral pathologies," at the American Speech-Language-Hearing Association in San Antonio.

David Hawkins was invited to speak on "Classroom Amplification Systems and Options," at the North Carolina Public School Audiology Association in Charlotte, 1992.

...presented "Unanswered questions in hearing aids," at the South Carolina Speech and Hearing Association Convention, 1993.

...presened a workshop, "A systematic approach to selecting hearing aids," for the Audiological Resource Association Convention in Atlanta, 1993.

...presented an invited talk, "Methods of output limitation in hearing aids," for the Tri-service Military Audiology Conference in Norfolk, VA, 1993.

...presented an invited talk, "Things we know and don't use, and things we need to know about hearing aids," at the Starkey Technology Summit Conference in Minneapolis, MN, 1993.

S.B. Holmes, J.T. Shope, **Patricia A. Sharpe**, and C. Goodman, presented "Geriatric assessment services in Michigan," at the Gerontological Society of America meeting in Washington, D.C., Nov. 1992.

Ruth A. Huntley presented "Variations in vowel space among young and older adults," at the American Speech-Language-Hearing Association meeting in San Antonio. She also presented with Linda A. Rummage and Shelagh Davies, "The voice workshop: Group therapy for occupational voice users."

...presented "Assessment of voice lineup procedures," at the American Association of Forensic Sciences," in Boston, 1993.

...presented a workshop, "Demystifying voice evaluation and treatment," at the South Carolina Speech and Hearing Association meeting in Hilton Head, 1993.

...presented a workshop, "Communication skills of older individuals," at the Aging Network Training Conference in Myrtle Beach, 1993.

M. Ickes, **William Cooper, Allen Montgomery, David Hawkins**, and J. Coleman, presented "Evoked otoacoustic emissions altered by contralateral stimulation," at the American Speech-Language-Hearing Association Convention, 1992.

Caroline A. Macera presented "Running pattern as a predictor of injury," at the American College of Sports Medicine meeting in Dallas, 1992.

Yilma Mekuria presented "Insecticide resistance testing of mosquitoes," at

the Mid-Atlantic Mosquito Control Association annual meeting in Raleigh.

...attended the Practical Management of Insecticide Resistance in Mosquitoes meeting in Charleston, March 30, 1993. Mekuria took part in developing a course of action for mosquito control in the lowcountry in view of the malthion resistance detected at the Wedge.

...**Dwight C. Williams, Todd Gwinn, Jeff C. Stivers**, M.G. Hyatt, T. Larrimer, M. Dubose, and R.E. Zack presented "Malathion resistance in the black saltmarsh mosquito, *Aedes Taeniorhynchus* in South Carolina," at the American Mosquito Control Association meeting in Fort Myers, FL, April 17-22, 1993.

Patricia A. Sharpe received a $2,722 Research and Productive Scholarship Faculty Grant for a qualititive investigation of low-income elderly women's beliefs about physical activity and functioning in old age.

... C.M. Connell, and M.P. Gallant presented "Measurement of social interaction related to health behavior change: A social network approach," at the American Public Health Association meeting in Washington, D.C., Nov. 1992.

... **Caroline A. Macera**, and G.L. Euster received $5,784 for "Development of a peer telephone support intervention for adult daughter caregivers of family members with dementia: A pilot study."

Edward Shmunes presented "Work-related contact dermatitis in an atopic versus aggrevated atopic dermatitis: What's the difference?," at the American Occupational Health Conference in Atlanta, April 26, 1993.

J.T. Shope, **Patricia A. Sharpe**, S.B. Holmes, and C. Goodman, presented "Availability of dememtia services in urban and non-urban areas of Michigan," at the Gerontological Society of America in Washington, D.C., Nov. 1992.

John R. Ureda was recently elected chairperson of the Board of Directors, South Carolina Division, American Cancer Society. He will assume office in September, 1993.

...presented the keynote address, "Healthy communities, healthy people - A health promotion framework for the future," at the Florida Department of Health and Rehabilitative Services Annual Statewide Health Promotion and Wellness Conference in Tampa, April 21-22, 1993.

...presented "Our world of value - Some thoughts on behavior change," at the South Carolina Medical Association Annual Meeting, Scientific Session, in Charleston, April 22-24, 1993.

Robert "Skip" Valois was made an adjunct professor of Medicine in the Department of Family and Preventive Medicine, School of Medicine.

...received A research grant in the amount of $18,000 from the Center for Disease Prevention and Health Promotion, Division of Adolescent and School Health for, "Youth risk behavior survey: South Carolina high school students, 1993."

...advanced to Fellow status in the Research Consortium, Association for the Advancement of Health Education, a Division of the American Alliance of Health, Physical Education, Recreation and Dance, Feb. 1992.

...recorded a four part series, "Troubled teens: Troubled times," aired on National Public Radio via WEPR FM 91.3, Columbia.

Dianne Ward received a Research and Productive Scholarship Award for $1,488 to study "Role of osmotic and hydrostatic pressures in fluid redistribution during skeletal muscle contraction.

F. Wolf, **Patricia A. Sharpe,** L.S. Robins, A.J. Zweifler, J. T. Shope, and N.L. Foster, presented "Development of an early stage dementia helping relationship inventory," at the American Educational Research Association meeting, April 1993.

Publications

T.E. Aldrich, **J. Wanzer Drane,** and J. Griffith, "Disease Clusters," chapter four in *Environmental Epidemiology and Risk Analysis.*

T.E. Aldrich and **J.Wanzer Drane**, *Cluster 3.1: Instruction manual system for epidemiologic analysis* for the USDHHS.

P. Balfour, **David Hawkins, Allen Montgomery, William Cooper and Kirby Jackson,** "Comparisons of subjective sound quality judgements for monaural and binaural hearing aids," *Ear and Hearing.*

M.N. Bustan, **Ann L. Coker, Cheryl A. Addy, Caroline A. Macera**, F. Greene, D. Sampoerno, " Oral contraceptive use and breast cancer in Indonesia," *Contraception.*

N.M. Clark, N.K. Janz, J.A. Dodge, and **Patricia A. Sharpe,** "Self-regulation of health behavior: The 'take PRIDE' program," *Health Education Quarterly.*

Ann L. Coker, A.J. Rosenberg, B.S. Hulka, M.F. McCann, "Active and passive cigarette smoke exposure and high grade cervical squamoun intraepithelial lesions," *Cancer Epidemiology, Biomarkers and Prevention.*

Ann L. Coker, M McCann, B.S. Hulka, "Oral contraceptives and cervical intraepithelial neoplasis, "*Journal of Clinical Epidemiology.*

Ann L. Coker, S. Harlap, J.A. Fortney, and H. Peterson, "Oral contraceptives and reproductive cancers: Weighing the risks and benefits," *Family Planning Perspectives.*

J. Wanzer Drane, T.E. Aldrich, and A.L. Pellom, "Cluster and beyond," invited paper statistical Society of Canada.

J. Wanzer Drane and D.L. Tibara, *Introduction to geographical information systems for public health applications*, for the Applied Statistics Training Institute course No. 421, USDHHS.

J. Wanzer Drane, Donna L. Richter, and Carlene Stoskopf, "Improved inputation of nonresponses to mailback questionnaires," *Statistics in Medicine.*

Carol Z. Garrison, Robert E. McKeown, Robert F. Valois, and Murray L. Vincent, " Aggression, substance use, and suicidal behaviors in high school students," *American Journal of Public Health.*

Robert M. Goodman, A. Steckler, S. Hoover, R. Schwartz, " A critique of contemporary community health promotion approaches: Maine - a multiple case study," *American Journal of Health Promotion.*

J. Griffith, T.E. Aldrich, and **J. Wanzer Drane**, "Risk Assessment," Chapter 10 in *Environmental Epidemiology and Risk Analysis.*

David Hawkins, "Acoustical methods in hearing aid selection," chapter in *Acoustical Factors Affecting Hearing Aid Performance.*

..."Assessment of hearing aid maximum output," *American Journal of Audiology.*

..."Current approaches to hearing aid selection," *Canadian Journal of Speech-Language Pathology and Audiology.*

G.W. Heath, **Caroline A. Macera**, D.C. Nieman, "Exercise and upper respiratory tract infections: Is there a relationship?," *Sports Medicine.*

Caroline A. Macera, E.D. Eaker, P.W. Goslar, S.J. DeAndrade, J.S. Williamson, C. Cornman, R.J. Jannarone, "Ethnic differences in the burden of caregiving," *American Journal of Alzheimer's Care and Related Disorders and Research.*

Caroline A. Macera, E.D. Eaker, R.J. Jannarone, D.R. Davis, C.H. Stoskopf, "The association of positive and negative events with depressive symptomatology among caregivers," *International Journal of Aging and Human Development.*

..."A measure of perceived burden among caregivers," *Evaluation and the Health Professions.*

Caroline A. Macera, G.W. Heath, E.D. Eaker, J.B. Croft, K.K. Yeager, F.C. Wheeler, " Leisure-time physical activity and high-density lipoproteins in a biracial community sample," *Ethnicity and Disease.*

S.W. McDermot, **Ann L. Coker, and Robert E. McKeown**, "Low birth weight and mild mental retardation at age five and ages nine to eleven," *Paediatric and Perinatal Epidemiology.*

Robert E. McKeown, T. David Marsh, Uma Amarnath, **Carol Z. Garrison, Cheryl L. Addy, Shirley J. Thompson** and Tom L. Austin, "Role of delayed feeding and of feeding increments in necrotizing enterocolitis," *The Journal of Pediatrics.*

Russell R. Pate, Caroline A. Macera, S.P Bailey, W.P. Bartoli, K.E. Powell, "Physiological, anthropometric, and training correlates of running economy in habitual runners," *Medicine and Science in Sports and Exercise.*

Donna L. Richter, Robert F. Valois, Robert E. McKeown, and Murray L. Vincent, "Correlates of condom use and number of sexual partners among high school adolescents," *Journal of School Health.*

Donna L. Richter and Melanie W. VanSant, "Targeting physicians for AIDS training: Breaking down barriers to caring for patients with HIV disease," *Journal of Health Education.*

J.T. Shope, S.B. Holmes, **Patricia A. Sharpe,** C. Goodman, S. Ixenson, and S. Gilman, "Planning for a statewide network of dementia services: A survey of geriatric assessment centers in Michigan," *American Journal of Alzheimer's Care and Related Disorders and Research.*

Patricia A. Sharpe, and C.M. Connell, "Exercise beliefs and behavior among older employees: A health promotion trial," *The Gerontologist.*

Leiyu Shi, "A cost-benefit analysis of a corporation's back injury prevention program," *Public Health Reports.*

...**Michael E. Samuels**, R. Konard, T. Rickets, **Carleen H. Stoskopf,** and **Donna Richter,** "The determinants of employing midlevel practitioners in rural community and migrant health centers," *Journal of Rural Health.*

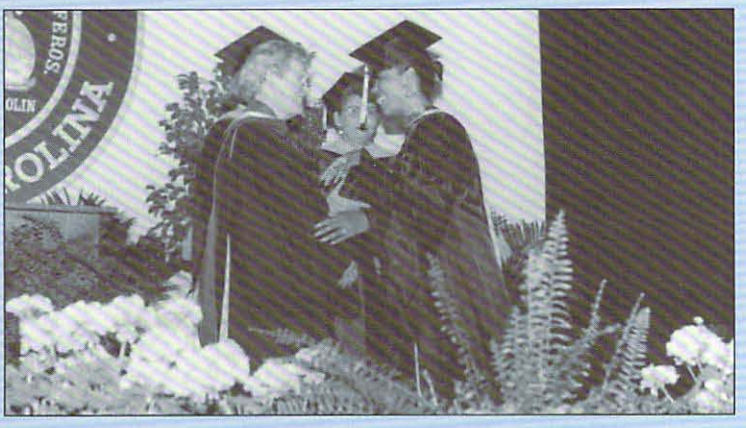
Francisco S. Sy, B.B. Timbo, C.L. Addy, **Donna L. Richter, Caroline A. Macera**, C.J. Posik, "Tuberculosis and AIDS in South Carolina: A case-control study," *Journal of the South Carolina Medical Association.*

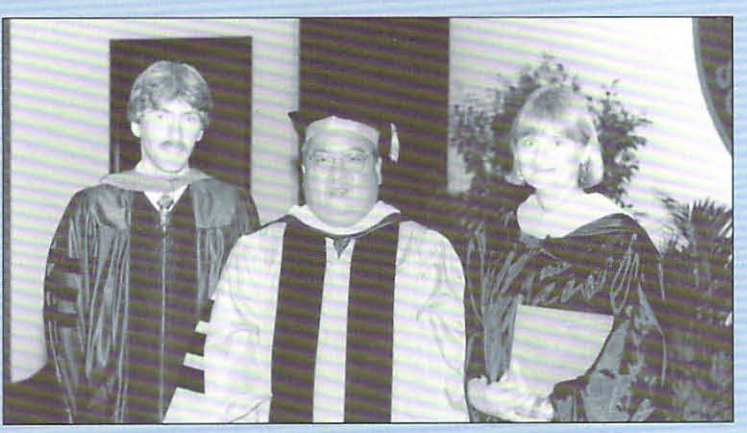
Robert F. Valois, Murray L. Vincent, Robert E. McKeown, Carol Z. Garrison, and Susan D. Kirby, "Adolescent risk behaviors and the potential for violence: A look at what's coming to campus, *Journal of American College Health.*

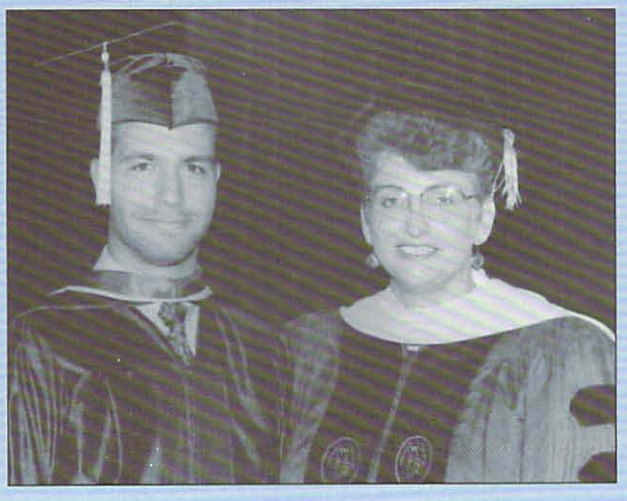
F. John Vernberg, **W.B. Vernberg, E. Blood,** A. Fortner, M. Fulton, **H. McKellar**, W. Michener, G. Scott, T. Siewicki, and K. El Figi, "Impact of urbanization on high-salinity estuaries in the southeastern United States," *Netherlands Journal of Sea Research.*

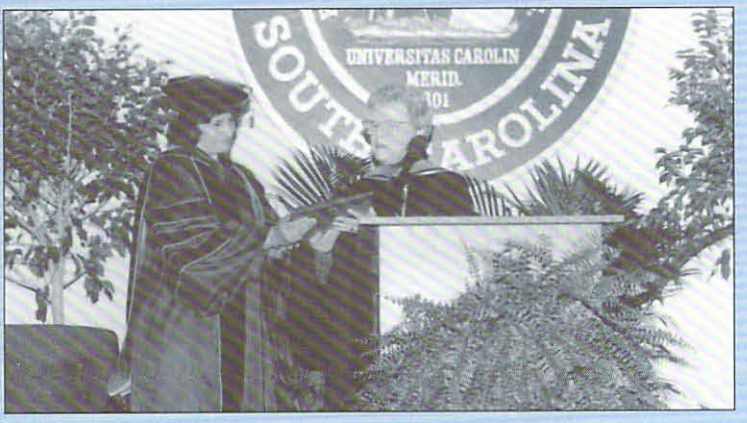
Parting Shots: The 1993 Hooding Ceremony

(Clockwise starting below) Senator Phil P. Leventis speaking at the May 14th Hooding Ceremony. Dean Vernberg congratulates Candy Adams, (HADM). Suzan Boyd, winner of the 1993 James A. Keith Excellence in Teaching Award with former winners, Jim Hussey, and Francisco Sy. Carol Macera receiving the 1993 Faculty Research Award. Richter with Donald Pifer.









Left to right: Dwight Williams was host of the School of Public Health, World Health Day luncheon. After lunch Quamar Ibrahim gave a thought provoking talk and slide presentation about her recent experiences in her native country Somalia. Ibrahim is employed with Horn of Africa, Oxfram America.

HealthBeat

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