

Tetracyclines: A 'Watershed' for Stony Brook Researcher

Treatments for gum, eye diseases among many new uses being found for 'old' drug

By Sue Risoli

Lorne Golub remembers exactly when it happened.

"It was December 29, 1981," recalled the professor from Stony Brook's School of Dental Medicine (Department of Oral Biology and Pathology). "When I saw what we had, I immediately became very busy jumping up and down in the laboratory."

The event that triggered his elation was the discovery of definitive proof that tetracyclines, a group of antibiotics used for decades to fight infection, also could be used to stop the destruction of a substance in the body known as collagen. Collagen fibers hold together tissue throughout the body and are essential to the structure of gums, skin, the skeleton and many other areas.

And since those fibers are destroyed during the course of a variety of diseases, the list of new uses for tetracyclines is an impressive one. It includes treatment of periodontal (gum) disease and ulcers of the cornea of the eye and the possibility of treating arthritis and skeletal disease. And, although no clinical data have been obtained yet, the concept of using tetracyclines to halt the spread of malignant tumors is a feasible one.

It all started 10 years ago. Along with colleagues Drs. Thomas McNamara and Nungavarm Ramamurthy (also of the Department of Oral Biology and Pathology at Stony Brook's Health Sciences Center), Dr. Golub began investigating why patients with diabetes seemed to

have a much more serious degree of periodontal disease than other people.

"We found that the diabetic state stimulated the production of collagenase, an enzyme that in normal amounts eats away at old collagen and makes way for new collagen so the body can carry on normal growth and development," he explained. "But in these people, the collagenase was going crazy and destroying their gums."

"We then tried to reduce this overproduction of collagenase. To do that, we used tetracyclines."

Why tetracyclines? "They had been used before as 'adjuncts' in the treatment of periodontal disease," Dr. Golub said. "They had been effective at suppressing types of bacteria found on gums, and it was thought that these bacteria initiated periodontal destruction. We tried them to see if they could slow the production of excess collagenase."

The attempt worked. Then came what Dr. Golub calls the "watershed" experiment that had him jumping for joy.

The researchers used germ-free rats—animals that had been born and bred in a sterile environment and had no bacteria anywhere in or on their bodies. It was found that tetracyclines could block excessive production of collagenase even in these animals.

"What this meant," said Dr. Golub, still relishing the memory, "is that tetracyclines were going beyond their standard use as an antibiotic. They

weren't stopping the collagenase merely by killing germs, because these rats didn't have any germs. They were working directly on the tissues themselves.

"We had found a new use for an old drug."

The implications for use of tetracyclines as a weapon against a number of diseases kept Dr. Golub's excitement percolating for a while longer. But soon caution took over. He and his colleagues waited almost two years to present their work to the rest of the scientific community, "just to be sure we had solid data."

Once the news was out, though, reaction was immediate. A flow of requests for information about the new use of tetracyclines from dentists, physicians and other researchers began and still continues. During a recent interview, Dr. Golub was constantly interrupted by telephone calls ("mostly from physicians saying 'Tell us more'") and showed a visitor a file drawer stuffed full of letters from scientists all over the world.

Some of the correspondence has led to collaborations with other researchers, which has led to more uses for tetracyclines. Dr. Henry D. Perry of the New York Eye and Ear Infirmary, upon hearing of Dr. Golub's findings, used tetracyclines to treat non-infected ulcerations of the cornea, which are believed to be caused by excess collagenase. More than 80% of the 25 patients treated were healed, reports Dr. Perry, director of ophthalmological research at the Infirmary. "These were patients that had not responded to standard treatment," he noted. "The rationale of the Stony Brook group in terms of the effects of tetracyclines on collagenase is a sound one, both in the lab and clinically."

Dr. Golub has begun preliminary studies in collaboration with Dr. Robert Greenwald, chief of rheumatology at Long Island Jewish-Hillside Medical Center, on a possible connection between arthritis and excess

collagenase. With Dr. Blasco Gomes (of the University's Department of Periodontics), Dr. Golub is working on preventing the kind of bone destruction that occurs during some other diseases. And, with Dr. Stanley Zucker of Stony Brook's Department of Medicine and the Veterans Administration Medical Center in Northport, he has found that a synthetic tetracycline called minocycline can block certain chemical activities in the body that may be involved in the spread of malignant tumors.

Scientists know that malignant tumors are able to invade healthy tissue by first destroying normal cells and intercellular connective tissue in their path with enzymes. One of these enzymes is believed to be collagenase.

Exploration of anti-tumor properties of tetracyclines is promising, though Dr. Golub warns, "We have no idea yet if this ability can persist in an animal or human system. It has been done only in a test tube environment,

(continued on page 2)

Our First Issue

Welcome to Campus Currents! We the employees of the State University of New York at Stony Brook are members of a growing, thriving academic community. It is my hope that our new faculty/staff publication will nurture our pride in that community, and in the work that we do here.

Feedback (letters to the editor, submissions to the "Connections" section or any other comments) is welcome. Mail may be addressed to: Editor, Campus Currents, 121 Central Hall 2760.

I look forward to hearing from you!

—Sue Risoli, Editor

and only on a very basic chemical level."

Though the list of uses for tetracyclines keeps growing, Dr. Golub hasn't neglected the drug's "original new" application—to treat periodontal disease. With a small piece of electronic equipment called a Periotron (which he invented with Stony Brook's Dr. Israel Kleinberg, chairperson of the Department of Oral Biology and Pathology), Dr. Golub can determine in a few seconds the degree of inflammation in a person's gums. This—combined with current treatment methods (such as removal of bacterial deposits or diseased tissue by surgical means) and the use of tetracyclines to block collagenase—represents a new system of periodontal health care.

Use of the Periotron is simple. A piece of filter paper is inserted into the crevices of the gums, to measure the amount of fluid flowing there. The paper then is placed into the Periotron, which gives a readout that correlates the amount of flow with the degree of gum inflammation. The higher the "Periotron score," the higher the degree of inflammation (and the amount of collagenase activity).

Tetracyclines lower the Periotron score, and the equipment allows Dr. Golub to measure just how well the treatment is working. "With the Periotron we can not only detect periodontal disease in its very early stages," he said, "but we can continually monitor the patient." Dentists could prescribe brief courses of treatment only when a patient's Periotron score is high, he continued, and adjust that treatment as it becomes necessary.

What's next for Dr. Golub? He hopes eventually to find out exactly why tetracyclines are so effective against excess collagenase. "We think it's related to their well-known ability to bind to calcium and zinc ions, which are necessary for collagenase activity to take place," he speculated.

"When you add tetracyclines to collagenase, we think, it binds the whole thing up and you get an inactive compound."

How does he plan to top his own "watershed?" Is there life after a scientific breakthrough?

"I don't feel that I'm in competition with myself," Dr. Golub reflected. "Above all I feel lucky to have obtained dramatic results that have implications for treating so many diseases."

"Now I want to move this thing forward to the point where it could be used clinically. I want to get as many people involved as possible to try and develop as many treatments as possible."

And he turned back to the phone, to speak with yet another caller waiting for information about tetracyclines.

How Does The Budget Work?

"The Budget" is a topic on everyone's minds—and not only because April 1 is the start of a new fiscal year. Recent recommendations from the Independent Commission on the Future of the State University, that SUNY change its status from state agency to public benefit corporation, have focused attention on fiscal matters and kept them in the news.

But how exactly does the budget work? What is the mysterious process involved in the acquisition of the more than \$200,000,000 in taxpayers' dollars that it takes to run Stony Brook? What follows is a step-by-step account...

The process begins the May before the start of a fiscal year. (In other words, planning for this year—FY '85-86—began in May 1984). At that time Stony Brook vice presidents draw up their portions of a preliminary budget request.

"A wishlist," Stony Brook Director of the Budget Daniel J. Melucci called it, "in which we tell them everything we think we need in order to accomplish our goals." The list can contain requests for maintenance funds, or ask for new faculty or expansions in existing programs. How close is this "wishlist" to what the University eventually receives? According to Dan Melucci, "not even close."

June: Stony Brook's preliminary budget is submitted to SUNY's central offices in Albany, along with similar budgets from every other SUNY campus. These budgets are analyzed by the central administration, which decides what SUNY as a whole can endorse. Then each campus is notified as to what it will be permitted to request (otherwise known as a final budget target).

August: President John H. Marburger, Provost Homer Neal and Vice President for Administration Carl Hanes identify which of Stony Brook's needs can be supported within the final budget target. They present a

Upcoming issue: how this year's budget affects Stony Brook

plan to the Vice Presidential Advisory Group (VPAG—a group consisting of the University's vice presidents, which meets weekly to discuss campus issues). After VPAG endorses the plan, the Budget Office on campus receives from each vice presidential area written support of its requests. These comments are incorporated into the University's final budget document.

Mid-September: The final budget is submitted to SUNY Central, which compiles all of the campus' requests into an overall SUNY-wide budget. This SUNY budget then is approved by the 13-member SUNY Board of Trustees, and is submitted to the New York State Division of the Budget (DOB).

October-December: DOB analyzes and reviews the SUNY request, keeping in mind statewide funding considerations dictated by the governor's office. The result of this analysis is the SUNY section of the governor's executive budget.

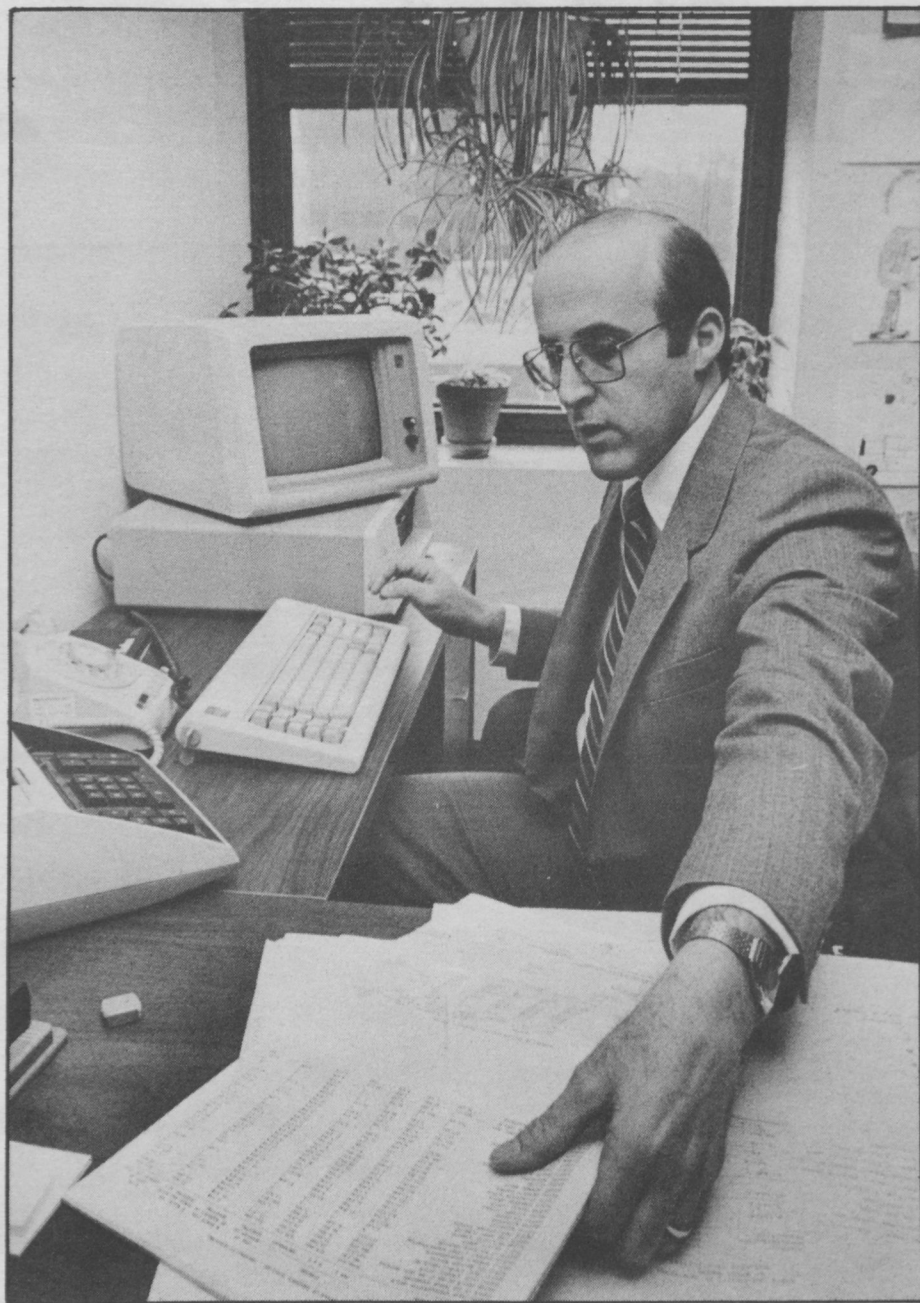
Late January: A 30-day period begins during which changes can be made in the executive budget by DOB. While DOB "tinkers" SUNY campuses have an opportunity to appeal. At this time President Marburger and Vice President Hanes plan how they can best convince DOB that more funds are necessary for Stony Brook. "It's a process of evaluating the political climate and developing the appropriate strategy," said Dan Melucci.

President Marburger submits an "impact statement" to SUNY Senior Vice Chancellor Harry Spindler. This is a letter which describes exactly what the budget—if passed as is—will mean to Stony Brook.

The New York State Legislature considers and debates the budget.

April 1: The budget is approved.

Early-mid April: Stony Brook receives its portion of the budget.



Latest budget figures are logged in by Budget Director Dan Melucci.

Once the budget is received, there are two major opportunities for change during the year. They are:

Financial Plan: A chance to finetune, to match resources requested a year before to conditions that exist when the budget becomes a reality. Financial plans for Stony Brook and other campuses are submitted on a budget certificate (a document that requests budget changes) to SUNY Central and then to DOB.

In creating a financial plan, University officials have to think of long-range implications. The plan is a permanent adjustment to Stony Brook's budget. If dollars are moved

from one area to another, that will become the foundation for the budget in the year to follow.

Reallocation Plan: A major temporary reallocation, done at the individual campus level. (For example, a hiring freeze to save money needed for other purposes.)

Other certificates are processed later on in the fiscal year. These are temporary, affecting only the fiscal year in which they are submitted.

No matter what the season of the fiscal year, the budget and its evolution affect every employee on campus. It "pays" for everyone to understand the process as thoroughly as they can.

How to Speak Budgetese

The following is a glossary of commonly used "budget words." Use them and sound like an expert!

Allocation—Budget amount identified for use in a particular area.

Appropriation—similar to above, but approved by state legislature. Funds are appropriated to SUNY, then allocated to various campuses.

Budget transfer—move allocations from one category to another, or from one area of the University to another.

IFR—income fund reimbursable. A budget account that collects revenue in order to support a program not ordinarily funded through tax dollars. Certain offices on campus that perform a service (such as conferences) can charge for that service, be reimbursed and continue performing the service. A "break-even" concept, not intended to run a deficit or profit.

Journal transfer—move expenses from one category, or one area of the University, to another. If the budget office buys materials and realizes that the accounting office will use half of

them, half the expense can be transferred to the accounting office. Differs from journal transfer in that it involves actual expenses already incurred, not allocations.

Lapsing period—March 31 (end of fiscal year) to September 15. Supplies must be ordered by March 31 but transactions (invoices received, goods paid for) can take place until September 15. However, if goods are not paid for by that date, delivery cannot be accepted. Or, the item would have to be paid for in the next year's budget, and the money earmarked in the expired budget would be lost.

OTPS—other than personal service. Money that pays for everything except salaries. Examples: travel, contractual services (snow removal), equipment, supplies and library acquisitions.

PSR—personal service regular. Pays for all continuing faculty and staff salaries.

S&E—supplies and expenses (subcategory of OTPS). Everything not considered utilities or equipment. Examples: materials (such as inexpensive calculators) purchased outside the University at local stores.

TS—temporary service. Salaries for those hired temporarily (such as student assistants).

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STATE UNIVERSITY OF NEW YORK AT
Stony Brook

Academic Advising Center Welcomes Students



Left: **Advisor Jeri Spector** sorts out student Peggy Ann Davis' academic problems.

Below: **Resources for minority students** are pointed out by advisor Lucia Rusty (center) to students Lisa Carter (left) and Laverne Gordon (right).

There is a place on campus where students sit in comfortable chairs, leafing through magazines or scanning shelves stocked with brochures. The room, decorated in soothing earth tones, is dotted with plants and wall hangings.

A new student lounge, perhaps? Wrong. This is the waiting room of the Center for Academic Advising, designed with the same philosophy that governs all activities at the Center—help students sort out academic crises big and small in an atmosphere both comfortable and comforting.

That wasn't always possible. When Vice Provost for Undergraduate Studies Graham Spanier first came to Stony Brook over two years ago, his staff consisted of administrators who also spent several hours a week advising students. Though sympathetic to students' concerns, the advisors were hampered by cramped quarters and the knowledge that time spent advising had to be squeezed into already overcommitted schedules.

"Our advising facilities were three little cubicles," Dr. Spanier recalled. "We had a tiny waiting room with mobs of people outside the door and lines of students sitting in the hall. I felt that it didn't work at all."

Dr. Spanier decided to create a separate unit for academic advising within the Office of Undergraduate Studies, with advisors who would devote all of their time to doing just that. He asked Assistant Vice Provost Larry DeBoer to direct it, and the Center for Academic Advising was born in the spring of 1983.

Located on the third floor of the Frank Melville, Jr. Memorial Library, the Center logged 4,100 student visits its first semester (compared to 2,500 made to Undergraduate Studies in spring 1982, before the creation of a special unit). Since then, over 26,000 advising sessions have taken place at the Center—2,361 of them in the first three weeks of this semester alone.

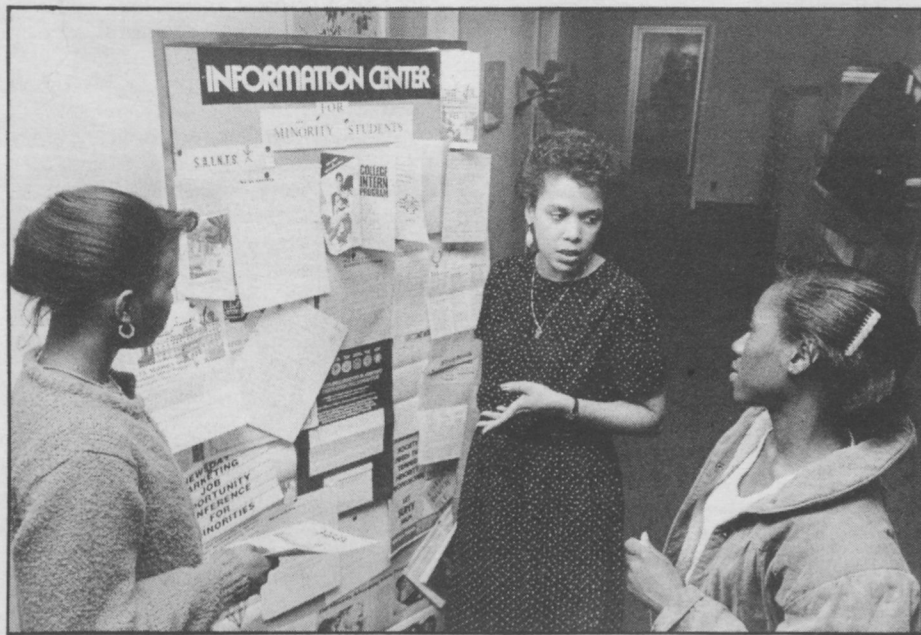
The demand is handled by a staff of five full-time advisors and five undergraduate peer advisors (some trained to work at the Center as part of their own studies in psychology or social welfare). During peak periods like Prime Time, the University-wide advance registration advising program, members of the Undergraduate Studies office still pitch in to do some advising of their own.

Student reaction to the Center has been positive, said Dr. DeBoer. "I used to hear from students, 'I'll only bother you for a minute.' Now they realize that we are there to help them, for as long as it takes."

"I won't hire anybody who doesn't like people," he declared. "You've got to like the fact that students have come to you for help."

That concern is evident. Once inside the Center, students are greeted by receptionist Millie Haller, who takes their names, listens to their problems and invites them to sit down. The wait to see an advisor usually is no longer than 10 minutes.

"By the time students get to us,



they're usually frustrated with their own problems and sometimes with the bureaucracy," Ms. Haller related. "I try to calm them down—let them feel that this is their oasis."

Friendly advisors

Students can expect an advisor to be competent and friendly—someone, perhaps, like Jeri Spector. "I try to put things in perspective for students," Ms. Spector said. "I tell them that their problems are serious, but it's nothing that will destroy you. I help them organize their lives a bit."

On a recent afternoon, she did just that for Mark, a freshman interested in attending law school, who offered nervously, "I have a lot of questions...I really don't know where to start."

"Well," Ms. Spector began, "I like the fact that you have a science background from your first semester. It represents a change in plans but it shows that you have a variety of interests." Soon she and Mark were deep in a discussion of what courses would best prepare him for a law career. Nervousness forgotten, he launched into an enthusiastic description of his plans. Next in line was Ralph ("I did a dumb thing and forgot to drop a course. Is it too late?"), who left the Center with advice on how to solve his dilemma.

Not all of the Center's efforts are directed toward solving problems. Some are aimed at preventing them. "We tell students to come in before things become critical," said Ms. Spector. "If you feel the floor shake just a little, come see an adviser—even if it's just to make sure things are going as well as you think they are."

She has established a resource center that provides tutoring and vocational and psychological counseling for students who identify themselves as disabled. Other advisors run workshops in dormitories, provide advising during orientation for new students, and coordinate

departmental Prime Time activities.

Some advising-related services are provided outside the Center itself, through the Office of Undergraduate Studies. Students labeled "disadvantaged" (economically or otherwise) are aided through a program that provides tutoring sessions and access to study groups. The Health Careers Opportunity Program attempts to increase the numbers of minority students entering health professions and health-related fields, by providing career counseling and tutoring. And the Committee on Academic Standing and Appeals reviews student's petitions for changes in course load or academic standing.

Sometimes students need help just surviving the "culture shock" that entering a university can produce. That help comes from the Center for Academic Advising's mentoring

program, created this year and administered by advisor Lucia Rusty. Forty minority students were matched with 35 faculty and staff members, who volunteered to guide their charges through bureaucratic, academic and even personal difficulties.

"Mentoring has always gone on on this campus, but we haven't formalized it till now," Ms. Rusty explained. "We matched freshmen, sophomores and first semester transfer students—groups who seem to need the most direction—with people who can monitor their academic progress and familiarize them with opportunities and resources on campus. But the number one purpose of a mentor is to be a friend."

Though the mentoring program is still in a "pilot" stage, its popularity is increasing. "We wanted to keep it from getting too big," said Ms. Rusty, "but more and more calls are coming in."

The demand increases

And the calls keep coming in to the rest of the Academic Advising staff. Said director DeBoer, "I call it a success story up to this point. But now we have a problem: how can we meet the demand and still give individual attention, and keep a student's wait to no more than 10 minutes?"

One possibility, he suggested, is the installation of computer terminals in each advisor's office, in addition to the terminal at the Center's main desk.

"That way we can call up a student's record, tell what requirements they're missing and how they can plan ahead. Having more information available would increase the time an advisor could spend working out a student's schedule."

That would lead to another of his goals—helping students plan their academic programs. "Long-term program planning as opposed to short-term trouble shooting is my objective," he explained. "There will always be some of the latter but we want to avoid problems for students in the first place."

Though the Center sees students throughout their academic careers, departments become the primary source of advising once a major has been declared. Among his plans for the Center's future, said Dr. DeBoer, is continued involvement in faculty workshops on advising and assistance in departments' efforts to develop their own advising programs. Outreach activities—such as holding advising sessions in dormitories or responding to the requests of student groups—also will remain a priority.

"Most of all," he said, "We want to keep treating students with courtesy and respect."

CONNECTIONS

Why is there a parking problem in the main campus parking garage (long lines to purchase tags, not enough spaces) and is anything being done about it?

Right now the demand for paid parking exceeds the 973 spaces available in the main campus parking garage, said Vice President for Campus Operations Robert A. Francis. In addition, starting with March tag sales, 100 fewer monthly tags were sold to provide space for prospective students, parents and invited guests to the campus.

The University hopes to begin construction on a new, 1,000-space parking garage by summer 1986. It will be located west of the Gymnasium, across the street from the Physics Building.

Long lines will be eliminated starting this September when the current parking tag system is replaced with a "card access" system at HSC and

main campus garages. Employees who want to park in those garages will be able to purchase annual "punch" cards, to be inserted into a slot when employees drive up to the garages. Payment for the cards will be made monthly by mailing in a check. Details of the plan (such as where checks will be mailed) are being worked out.

A more immediate measure to be taken by this summer is the restriping of the top level of the existing main campus garage. Smaller spaces will be created for compact cars. It is expected that 20 spaces will be added this way.

Employees may submit questions to "Connections" by mailing them to: Editor, Campus Currents, 121 Central Hall 2760.

Genetic Engineering Facility

Stony Brook researchers, with a \$150,000 grant from the National Institutes of Health, are setting up a facility that will allow them to study certain rare but essential proteins within the body.

The macromolecular analysis center, which will combine several new pieces of state-of-the-art genetic engineering equipment with equipment already in use at the University, will open in July at Stony Brook's Health Sciences Center. Dr. David Williams, who will oversee the development of the facility, called it "an opportunity for investigators from a variety of biomedical disciplines to examine a group of rare proteins we call regulatory proteins."

These proteins control processes such as hormone regulation and replication of viruses. "They are not as common as the structural proteins that actually make up a cell, but they

are far more interesting," said Dr. Williams. "However, it is only recently that anyone has begun to examine them, because they are so few in number."

Faculty Aid Computer Students

Computer-assisted instruction in algorithmic problem solving, one of the fundamental skills a computer scientist must learn, will be developed for national use through a \$182,000 federal grant received for work by two Stony Brook faculty members.

Dr. Peter B. Henderson of the Department of Computer Science and Dr. David L. Ferguson of the

Department of Technology and Society will develop the computer-assisted instruction program through joint funding from the National Science Foundation and U.S. Department of Education's Fund for the Improvement of Postsecondary Education.

The result will help novice computer science students learn about algorithms—well-defined sequences of steps for solving a problem—which are fundamental to the process of computer programming.

It is expected that the instruction program could become an integral component of many introductory computer science courses both at the college and pre-college levels.

SB-Yeshiva Program

Starting this summer, Stony Brook undergraduates will be able to complete a full year of law school during the summers before and after graduation through a program to be instituted with Benjamin N. Cardozo School of Law at Yeshiva University.

The Stony Brook-Yeshiva program will be offered as part of a Socio-Legal Studies minor created at Stony Brook this fall. Students who successfully complete the two summers of intensive law study will be able to finish their legal education in two, rather than the traditional three, years.

KUDOS

Emile Adams, Associate Vice President for Student Affairs, has assumed new responsibilities as the Division of Student Affairs' Director of Enrollment Management...**Vello Marsocci** of the Department of Electrical Engineering has been named "Engineer of the Year" by the Suffolk County Chapter of the New York State Society of Professional Engineers...Forty-six employees were honored at the University's second annual presentation of 20- and 25-year service awards. They are: 20 years—**David Fox**, Physics; **Theodore D. Goldfarb**, Chemistry, Undergraduate Studies; **Marvin M. Kristein**, Economics; **William Lenoble**, Chemistry; **Emilio P. Lizza**,

Jr., Paint Shop; **Herbert R. Muether**, Physics; **Fausto Ramirez**, Chemistry; **Robert E. Smolker**, Ecology and Evolution; **Judah L. Stampfer**, English; **Sei Sujishi**, Chemistry, Physical Sciences and Mathematics; **Walter W. Watson**, Philosophy; 25 years—**Harriet Allentuch**, French and Italian; **Pedro M. Batista**, Custodial Services; **Betty F. Bechtel**, Registrar; **Thomas W. Benson**, Bus Service; **Edward A. Bonvalot**, Music; **Karl Bottigheimer**, History; **Russell Brown**, Germanic and Slavic Languages; **Vincent Cirillo**, Biochemistry; **Robert Cole**, Engineering; **Douglas J. Conk**, Paint Shop; **George W. Damm**, Biological Sciences; **Karl Demuth**, College of Arts and Sciences; **Max Dresden**, Institute for Theoretical Physics; **Wanda R. Drossel**, Purchasing; **Louis C. Faron**, Anthropology; **Marvin R. Goldfried**,

Psychology; **George J. Hechtel**, Ecology and Evolution; **Susan L. Juliano**, Cashiering; **James W. Keene**, Career Development; **Paul Kumpel**, Mathematics; **Kurt Lang**, Political Science; **Richard S.L. Lee**, Mechanical Engineering; **Robert H. Lee**, History; **Gerald J. Lenox**, Maintenance; **Glenna M. Manto**, Custodial Services; **Frank E. Myers**, Political Science; **Ned Polsky**, Sociology; **Phyllis A. Reed**, Graduate School; **Joel T. Rosenthal**, History; **Sallie Sears**, English; **Eli Seifman**, Social Sciences; **Henry B. Silsbee**, Physics; **Robert B. Snider**, Physical Education; **Reginald P. Tewarson**, Applied Mathematics and Statistics; **Alice Wilson**, English.

Commencement Reminder

Faculty and staff are reminded that April 19 is the last day to order rental academic attire for Commencement (May 19). All orders must be accompanied by a check payable to Collegiate Cap and Gown Company. Price information and other details about Commencement are included in the "Preparation Guide for Commencement 1985" (which has been mailed to faculty and those staff members ordering rental attire). For more information, call the Office of Conferences and Special Events at 246-3325.

EVENTS

Campus Currents lists events of general, campus-wide interest. Submissions may be sent to: Editor, Campus Currents, 121 Central Hall 2760.

• MONDAY, APRIL 1-FRIDAY, APRIL 19

EXHIBIT: "Francesc Torres: Paths of Glory," Fine Arts Center Art Gallery, weekdays 1-5 p.m. and evenings prior to Fine Arts Center main stage performances. No charge for admission.

• TUESDAY, APRIL 2

MUSIC: Stony Brook Gospel Choir. Fine Arts Center Main Stage, 8 p.m. Tickets at Fine Arts Center Box Office, general admission \$4; SUSB students, \$3.

• WEDNESDAY, APRIL 3

LECTURE: "Moral Aspects of Strategic Nuclear Doctrine," Dr. Peter Manchester, SUSB. Old Chemistry Building, 8 p.m. Sponsored by the Arms Control, Disarmament and Peace Studies Resource Center.

• WEDNESDAY, APRIL 3-THURSDAY, APRIL 4

BOOKS, CAKES: Spring book and baked goods sale, Frank Melville, Jr. Memorial Library Galleria, 10 a.m.-3 p.m. Sponsored by the Library Staff Association.

• THURSDAY, APRIL 4

EASTER: Holy Thursday (Thurs., April 4), Good Friday (Fri., April 5) and Easter Vigil (Sat., April 6) services will be held in the Arms Control, Disarmament and Peace Studies Resource Center, Old Chemistry Building, 8 p.m. For details call the Interfaith Center at 246-6844.

• FRIDAY, APRIL 5

PASSOVER: A Seder will be held on campus; Kosher for Passover meals

Photo © 1984 by King Douglas



North Carolina Dance Theatre

will be available in the Roth Cafeteria during Passover. Services will be held on the mornings of Sat., April 6; Sun., April 7; Fri., April 12 and Sat., April 13. For details on any of the above, contact the Hillel office at 246-6842.

• THURSDAY, APRIL 11

LECTURE: "Health Policy: The Emerging Role of the States," James R. Tallon, Jr., Chair, New York State Assembly Standing Committee on Health. HSC Lecture Hall 2, Level 2, 4 p.m.

• FRIDAY, APRIL 12

ASTRONOMY: Lecture by Dr. James Lattimer, "The Origin of the Moon or When Worlds Collide" (part of the Astronomy Open House Night Series). ESS Lecture Hall 001, 8 p.m. The Museum of Long Island Natural Sciences and Earth and Space Sciences Library will be open to the public free of charge during lecture (also free of charge).

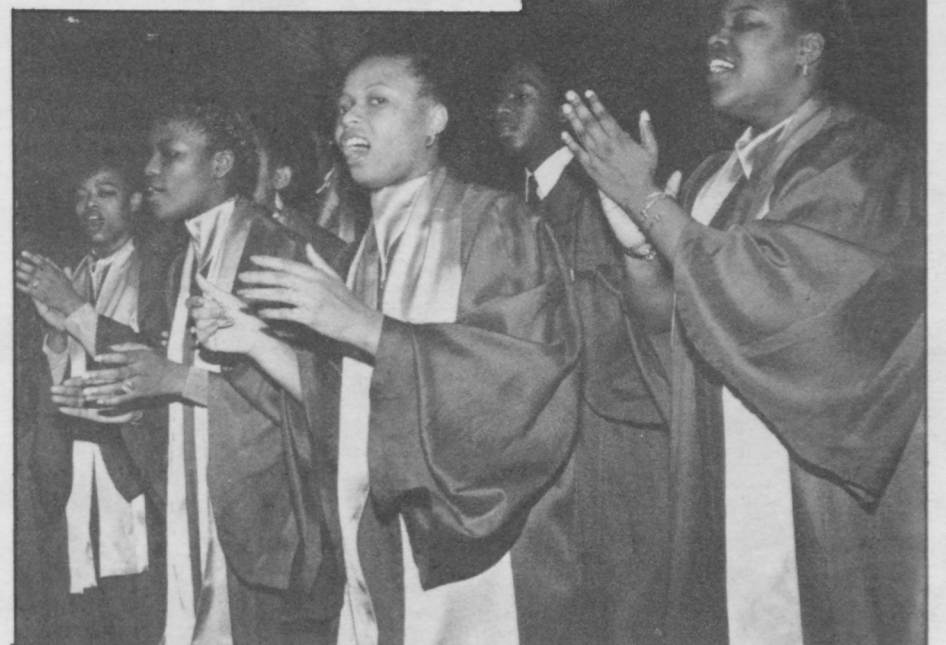


Photo by Maxine Hicks

• SATURDAY, APRIL 13

DANCE: North Carolina Dance Theatre. Fine Arts Center Main Stage, 8 p.m. Tickets at Fine Arts Center Box

Office, general admission \$14, \$12 and \$10. SUSB students and senior citizens \$12, \$10 and \$8.