

Funds Regenerate Cornell's Liver Research

Robert P. Cornell is blazing a trail through the recently opened frontier of liver regeneration and its mechanism. The National Science Foundation in Washington, D.C., is helping Cornell fund that trail. The Foundation awarded the NMSU associate professor of physiology a \$47,000 research grant to bring the total of Cornell's NSF grant monies to \$133,000.

Since 1978, Cornell has been directing various experiments dealing with the liver and its function. His latest grant from the Foundation has allowed him to continue the investigation into the mysteries of liver regeneration. Cornell has theorized that interleukin-1, a recently isolated hormone, and other factors stimulate liver regeneration. If the mechanism by which the liver regenerates can be fully understood, new avenues may be opened for treatment of liver-diseased patients and for the understanding of cancer.

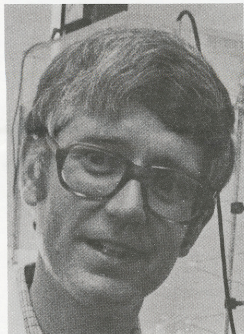
Pete Cornell received his bachelor's degree in chemistry from Miami University in Oxford, Ohio. He continued his education at the University of Illinois Medical Center in Chicago. It was at this time that Cornell began studying macrophages, cells in the liver that surround and engulf foreign particles. In the spring of 1972, after receiving a Ph.D. in physiology from the University of Illinois, Cornell accepted a post-doctoral position at Loyola University Medical Center in Chicago. While at Loyola, he continued his studies on the liver macrophages and was also introduced to the role of gut-derived endotoxin.

In January 1974, Cornell joined the NMSU biology faculty and continued his study of the liver. However, at that time, NMSU was not a research-oriented university, and four years elapsed before Cornell could get the necessary equipment and funding needed for further research.

Meanwhile, Cornell continued studying various aspects of the liver. He realized that the liver was the only organ in the body to massively regenerate. He also realized that the mechanism of why this natural phenomenon takes place was unknown. This compelled Cornell to begin research on liver regeneration.

Besides the grant from the National Science Foundation, Cornell has received grants from other organizations. In 1978, he received a \$20,000 grant from the American Diabetes Association, and in 1979, a three-

year \$75,000 grant from the National Institute of Health. In 1982, he received another three years of funding from the ADA. The ADA, the NIH and the NSF only give a small percentage of research grants. Also, upon receiving a grant, a scientist must show progress or the grant will be revoked. The four back-to-back grants Cornell has received verify the success of his research.



Robert P. Cornell, associate professor of physiology, recently received a \$47,000 grant from the National Science Foundation to continue his research on liver regeneration.

Upon receiving his first grant, Cornell studied the relationship between endotoxins, macrophages and the secretion of insulin and glucagon which are important in the study of diabetes. Since all of these are part of the mechanism by which the liver regenerates, Cornell's initial research at NMSU was a direct stepping stone into liver-regeneration research.

The liver is unique; it is the only organ that can undergo rapid cell division and massively regenerate when damaged or partially removed. By comparison, cancer cells also undergo rapid cell division, but instead of reproducing and terminating

rapid growth when it is unbeneficial to the body as the liver does, cancer cells keep multiplying and drown normal cells. If the exact stimulants that initiate and terminate cell division in the liver can be determined, this knowledge may bring insight into how and why the division of cancer cells is initiated and why termination of that division does not occur. In addition, it will anticipate new treatment of a diseased or damaged liver.

Presently, Cornell is experimenting with the intravenous administration of human interleukin-1 into rats. Although Cornell has not completed this experiment, he has generated some evidence showing that interleukin-1 elicits the pancreatic secretion of insulin. The interleukin-1 induced secretion of insulin may explain why high levels of insulin in the blood occurs in response to endotoxemia, high levels of endotoxin in the circulatory system.

Endotoxemia causes macrophages to be active, and this triggers interleukin-1 secretion. This secretion raises the level of the insulin in the blood which in turn stimulates liver regeneration. Endotoxemia also stimulates the sympathetic, or involuntary, nerves, which increases glucagon in the blood which in turn also triggers liver regeneration. Cornell has theorized that the mechanism by which the liver regenerates is both neural (sympathetic nerves) and endocrine (interleukin-1) related.

Cornell's plans for the coming year include more experiments with rats and further studies with interleukin-1 and sympathetic activation. He intends to block either of the processes to study each stimulation pathway separately. Also, with the purchase of new equipment by the University, Cornell will be able to determine if endotoxin, interleukin-1 and other factors have a direct effect on liver regeneration by isolating liver cells.

The mechanism of liver regeneration following acute liver injury is unresolved. The persistent scientific efforts of pioneer Pete Cornell have produced new and radical perspectives. If his research keeps progressing as it has, the liver regeneration mechanisms may soon be made clear. NMSU is privileged to support research which is at the cutting edge of science at the national and international level.

By Toby Vandenberg, student writer

Reduce Midterm Stress

Mary sleeps every chance she gets. The strange thing is that it is time for midterm exams. She has time for studying to keep her busy around the clock, yet she gets eight hours of sleep a night and still takes naps during the day.

What causes Mary to sleep in stress. Sleep is her way of coping with pressures. How stress affects an individual depends on how that person handles the stress. Stress can never be totally eliminated, but it can be controlled.

"As you eliminate one stressful situation, there is always another one waiting in the wings. You have to learn to deal and cope with stress," said Sal Costa of the NMSU psychology department.

With midterm exams this week, students' stress levels are probably on the rise. To ensure that the stress does not get out of hand, students should take measures to reduce the stress levels.

The presence of stress can be used positively in terms of a motivational tool by producing excitement and energy. However, if not dealt with properly, stress can cause serious psychological and physical problems.

If uncontrolled, stress can affect how a student does on an exam and even cause medical concerns such as hypertension, high blood pressure and ulcers. These conditions hardly sound like health matters for college students; yet, they are and can result from stress.

Stress develops when a person feels he or she has lost control. During midterm week, students just like Mary are feeling they have no control over tests, according to Robert Martin, associate professor of education.

"The more you let things go, the more things are out of control. The more stress you feel, the more stress you feel. The way to feel the least stress is to focus on what you can control," Martin said.

Students can have influence over tests. The key is preparation and planning. Make up a list of possible exam questions or prepare an exam calendar and schedule. These not only prepare the student, but may also reveal what material he or she needs to study and may eliminate cramming.

According to Costa, stress can be reduced by using positive reinforcement and relaxation, but students must do the work that is required to perform well on the exams.

John Mueller, professor of psychology at the University of Missouri-Columbia suggests that practicing being in the actual testing situation can help reduce test anxiety.

"You have to take the test conditions as a given because when you are taking a standardized exam, you can't control the format. Try to match the study environment with the testing environment," Mueller said.

Mueller will speak on "Test Anxiety and Memory" at 3:30 p.m., Tuesday, in the SUB, Alumni Room.

Martin's "Seven Ways to Reduce Stress," was recently published in *Regional Pulse*, printed by the Moberly Regional Medical Center. His suggestions:

1. Problem ownership: When you're worried or upset, ask yourself, "Whose problem is this?"
2. "Me" time: Take some time for yourself, even if it's only 10 minutes. Take your "me" time first, and you'll have more energy for other things.
3. Setting limits: Set limits: say "no" to nonessential requests. Even though

it's easy to say yes and nonessential requests often take little time, they add up until you have no time for important things, like your "me" time.

4. Imaging and reframing: Practice picturing yourself in a favorite place—a place where you feel calm and in control.
5. Exercise: Walk instead of taking the car to "save time." Get outside. Do something physical. Use the steps instead of the elevator.
6. Planning: Plan your weekend and your free time so you spend that time doing things you really want to do.
7. Making a date: Make a date to spend time with your partner or with a friend doing something you both enjoy. Being in the house together doesn't count unless you are paying attention to each other.


It is possible for students to succeed at stress management. However, Costa urges that those who feel they can no longer deal with their stress should seek professional help to ensure their physical and mental well-being.

Test Your Anxiety

Do you have test anxiety? If you do, you are not alone; most people have some anxiety when taking tests. However, test anxiety can affect your performance on exams. If some or all of the following describe you, you may be experiencing test anxiety.


1. You feel that tests are more of a threat than a challenge.
 2. You have a lot of worrisome or negative thoughts about what might happen if you do poorly.
 3. You have physical reactions (such as butterflies in the stomach, sweaty palms, altered heart or breathing rate) when you are about to take a test.
 4. You have trouble keeping your mind on the test items or remembering ideas you learned recently.
 5. You worry about other people scoring higher than you on the test.
 6. Your worries about tests have not decreased as you have matured.
- (Adapted from Barron's Educational Series, "How to Beat Test Anxiety and Score Higher on the SAT & All Other Exams.")

LYCEUM SERIES
presents



8 p.m., March 4
Baldwin Auditorium

Free tickets are available to
students, faculty and staff.



Financial assistance provided by
the Missouri Arts Council.

Half the Size, Twice the Info, Two Times a Month

The Northeast Today will experience another facelift this month.

To be able to provide more information and for easier handling, the publication is expanding to eight pages and shrinking to half the size of the current Northeast Today. Due to limited staff, the expanded publication will be published twice monthly; a single-sheet flyer containing the weekly calendar-of-events will be published during weeks when no Northeast Today is published.

An events calendar will be published the week of March 16; and the first expanded version of the Northeast Today will come out the following week. Deadline for entries for the March 16 events calendar is Wednesday, March 4, due to midterm break. Following the break, all deadlines will return to the Wednesday prior to Monday's issue. The Public Relations Office, A/H 202, will continue to take feature ideas and calendar entries on the forms provided in the office.

Afri on Campus

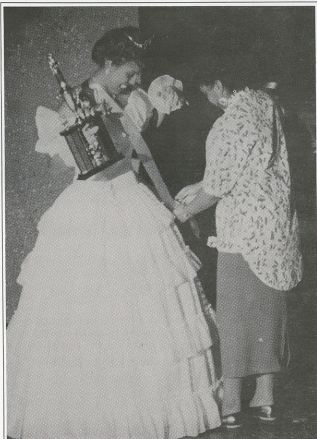
Afri Productions, a national, black touring musical troupe, will perform "Movin' On Up," at 8 p.m., March 18, in Baldwin Auditorium as the eighth feature performance of this year's Lyceum Series.

The theater group from New York City makes its first appearance at the University with its performance of a show that "travels a musical route along an historical line of racial progress."

The performance begins with an African sequence of music and dance. "The scene goes from the joys of ceremonial dance to the confusion of captivity," according to information from the organization.

The next sequence on slavery shows humor in the midst of difficulty as the basis of survival and historic creativity for blacks. Emancipation forms the next scene where that capacity to laugh is again demonstrated.

The performance continues through blues and jazz music, from the rocking church houses to a call for black Americans to take pride in their past plus a



Junior Shellie Metcalfe accepts the Miss ABC sash from Junior Tiffany Moore. Metcalfe won the contest that was held Feb. 22.



And the winners of Feb. 25's Mr. and Ms. University Contest are: Mr. University—third place, senior Jerry Schneider; second place, freshman John Bieda; first place, freshman Lessie Nunn. Ms. University—first place, junior Dawn Porter; second place, sophomore Susan Hill; third place, senior Valerie Widmer. In the background is senior Jackie Hanson.

challenge to white Americans to understand blacks as a positive factor in national life.

Afri Productions recently served a residency at the Kennedy Center for the Performing Arts in Washington, D.C. A producing director of the Center, said of Afri's performance: "Educationally, it ('Movin' On Up') provided an ideal

springboard for so much study of black history and the contributions of black people throughout American history. Further, the program was excellent! Your actors/singers are to be congratulated on their expertise."

Free tickets for the performance will be available for students, faculty and staff.

2 MONDAY

First day of second-half block courses.

5-6:30 p.m.—**Writing Competency Test**, A/H 305, also 8-9:30 p.m.

6 p.m.—**Students For Life meeting**, Violette Hall 230. Iowa statewide pro-life speaker, Donald LePorte, will speak and the film "No Abi!" will be shown.

3 TUESDAY

Liberty Mutual Insurance Co. employment interviews, contact the Career Planning and Placement Center, McKinney Center, for more information.

3 p.m.—**Men's tennis vs. Graceland College**, Pershing Arena.

3:30 p.m.—**John Mueller, Ph.D.**, professor of psychology at the University of Missouri-Columbia will speak on "Test Anxiety and Memory," SUB, Alumni Room.

4-6:30 p.m.—**French Club Meeting**, SUB.

5-6:30 p.m.—**Writing Competency Test**, A/H 302, 304 and 305. For English Composition I students only, also 8-9:30 p.m.

6:50-7:50 p.m.—**Observatory will be open** to students, faculty, staff and their families, if it is clear.

4 WEDNESDAY

Principal Financial Group employment interviews, contact the Career Planning and Placement Center, McKinney Center, for more information.

12:30 p.m.—**Science Seminar Series** presents Robert Michael Benbow from Iowa State University, SUB, Activities Room. Benbow will speak on "DNA Replication in Frog and Soybean."

5-6:30 p.m.—**Writing Competency Test**, A/H 302, 304 and 305. For English Composition I students only, also 8-9:30 p.m.

7 p.m.—**Missouri Native Plant Society** (Kirksville chapter) will present Melvin Conrad, Science Hall 124. Conrad will speak on "Missouri Spring Wildflowers." Refreshments will be served.

—**Delta Sigma Pi** professional business fraternity and the Division of Business and Accountancy present speakers from Principal Financial Group, Violette Hall 120. "Non-selling Careers in Insurance," is the topic.

—**Cheerleading informational meeting** for the 1987-88 academic year, SUB 3, also Thursday. All men and women interested in either a cheering or a mascot position are welcome.

—**Historical Society meeting**, A/H 300. Odessa Ofstad, special collections librarian, will be the guest speaker.

THIS WEEK

8 p.m.—**St. Louis Brass Quintet**, presented by the Lyceum Series, Baldwin Auditorium.

5 THURSDAY

5-6:30 p.m.—**Writing Competency Test**, A/H 302, 304 and 305. For English Composition I students only, also 8-9:30 p.m.

8 p.m.—**NMSU String Orchestra** performance under the direction of Karen Becker, Baldwin Auditorium. Works by Geminiani, Tansman, Tchaikovsky and Hindemith will be performed.

6 FRIDAY

6 p.m.—**Residence halls close**.

NOTES

All history majors are eligible to compete for a \$50 scholarship. A paper (10 page maximum) on the topic "Liberty: Rights and Responsibilities" is required. For more information, contact Arnold Zuckerman, A/H 111C.

The **Residence Life Office** is now taking applications for approximately 85 summer and fall student jobs. Summer positions are available for: resident advisers, facilities repair crew, office/clerical, paint crew, housekeeping, hall-desk staff and night host/hostess. Positions for fall include: facilities repair crew, Resident Safety Patrol and weekend cleaners. Applications are available in the Residence Life Office, A/H 101, and the Residence Life Facilities Office, Ryle Hall 114. Application deadline is March 27.

The **SAB** will present Jim Nagel, a leadership/motivational speaker, at 3:30 p.m. in the SUB, Activities Room and at 8 p.m. in the SUB Georgian Room, March 19. Nagel will speak on "Emerging Leaders."

Student Ambassador and S.T.A.R. (Students to Assist Recruitment) applications are available until Friday in the Admissions Office, A/H 205. Applicants should be involved in University life and should have exceptional academic standing. Student ambassadors are responsible for giving campus tours and helping with special visit events. S.T.A.R.s assist the Admissions Office by writing and calling prospective students. Applicants will be interviewed March 16-20.

Mud Volleyball, sponsored by the SAB, will be held 9 a.m.-5 p.m., March 21, at the tug-of-war pits near the baseball field. Team cost is \$20 or \$15 with an SAB sticker. Sign-up starts Wednesday through March 18 in the SAB Office.

SAB trip to Worlds of Fun, 7:30 a.m.-10 p.m., April 12. Cost is \$18 or \$16 with an SAB sticker. Sign-up in the SAB Office, March 16-27.

Applications are available for Campbell Apartment manager for fall 1987-88. Requirements include a 2.75 (minimum) GPA and at least 30 credit hours. Responsibilities include administering, programming and advising for a 62-unit apartment complex. For more information, contact the Residence Life Office, A/H 101. Applications are due March 17.

The **March 4 meeting** of the Accounting Club will present Mark Wray, audit manager of Price Waterhouse. Students will present solutions to financial case problems, and Wray will comment on them. Everyone is welcome to attend. The meeting will be at 6:30 p.m. in the SUB, Conference Room.

"**Up With People**," sponsored by the SAB, will perform at 7:30 p.m., March 30, in Baldwin Auditorium. Tickets cost \$5 for the public, \$3 for students and \$2 for SAB sticker holders. Anyone interested in housing a cast member March 29-31, contact the Student Activities Office at 785-4222.

The **Writing Center** spring walk-in tutor hours are Tuesday, 1:30-4:30 p.m. and 7-9 p.m.; Wednesday, 1:30-4:30 p.m.; Thursday, 1:30-4:30 p.m.; and Friday, 10 a.m.-noon. No appointment is necessary.

The **1987 Baldwin Lecture and Recognition Banquet** will be at 6:30 p.m., April 7. Frank Newman, president of the Education Commission of the States, will deliver the keynote address. For reservations and tickets, contact the Public Relations Office, A/H 202, between March 9 and April 7. Service and retirement honorees should contact the President's Office between March 9 and April 7. Tickets for this year's banquet are \$5.

Entry deadline for the next issue of the North-east Today to be published March 16 due to the midterm break is 5 p.m. Thursday, March 5. Entry forms are available in the Public Relations Office, A/H 202.