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The Rockefeller University

news&notes

May 31, 1996 Volume 6, Number 30 *The Rockefeller University*

Ledgers in black ink

University sustains financial health

Continuing its financial recovery, the university will complete 1995-1996 with its budget in balance for the second consecutive year, and the administration expects the university to remain financially healthy in the next fiscal year as well, according to the end-of-year report prepared by President Torsten Wiesel and Executive Vice President Fred Bohen. Their plans for 1996-1997 (FY97) have been endorsed by key committees of the Board of Trustees and will be submitted to the full board for approval in June.

"Over the last several years, we have diligently pursued two main goals simultaneously, and we are now happily in a position to present pretty convincing evidence that we are achieving renewal and expansion of our scientific enterprise and also living within our financial means," Bohen said. "That evidence was persuasive with the trustees' Budget and Operations Committee, which unanimously endorsed our spending plan for next year."

Bohen continued, "Three consecutive years of financially balanced operations contrasts quite favorably with the outlook at the turn of the decade, when the university's operating deficit crested at $12.3 million. We are now on a much more stable foundation, too, with a larger endowment and strengthened private fund-raising. With care, we should be able to stay on this course indefinitely."

Wiesel said, "Putting our house in order and living within our means has inspired our trustees and other friends of the university to give much more generously to support the faculty development and renewal program laid out in our 1994 Academic Plan. That plan recommended the appointment of 10 to 15 new heads of lab here during the period 1994-1997, and we have already made 13 new appointments, as well as several promotions from within during that period.

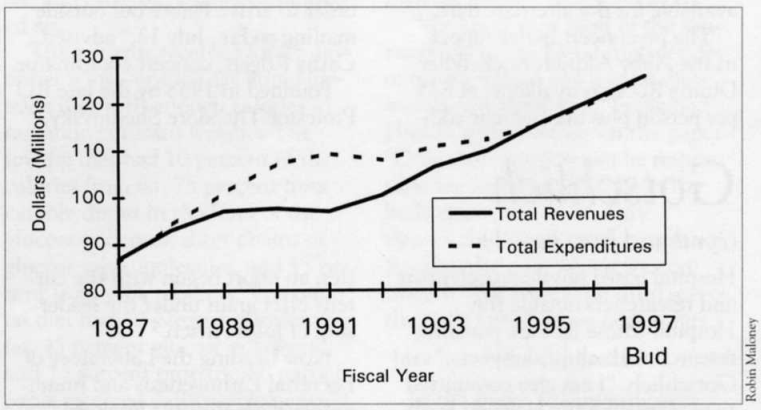
"Because our operations are financially stable and we are meeting ambitious fund-raising goals and targets, the trustees have reconfirmed our authority to recruit at least two additional heads of lab during the year ahead, and to con-

See ***Budget****, page 4*

Raises to average 4.5 percent

Much of the $4.9 million increase in the FY97 operating budget is designated for salary and wage raises expected to average 4.5 percent for those earning up to $70,000 per year. Raises are based on merit and given at the discretion of lab and department heads. Somewhat smaller increases on average will be provided for those whose annual earnings are higher.

"We anticipate that the cost of living increase will be about 3 percent in 1996-1997, so we think 4.5 percent compares favorably for the vast majority of our faculty and staff," said Fred Bohen, executive vice president. "We would do more if we could, but salary and wage increases take up about two-thirds of all available additional income each year, and this is what we can afford and still live within our means in FY97."

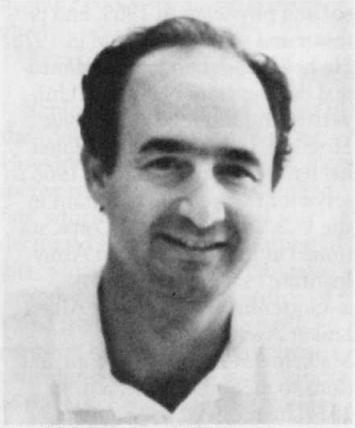


Robin Maloney

This history of RU's finances shows that revenues and expenditures began to diverge in 1988, with the deficit cresting at $12.3 million in 1991. The university began closing the gap the following year.

At the Friday lecture

Geneticist to examine eyes



Courtesy of Larry Zipursky

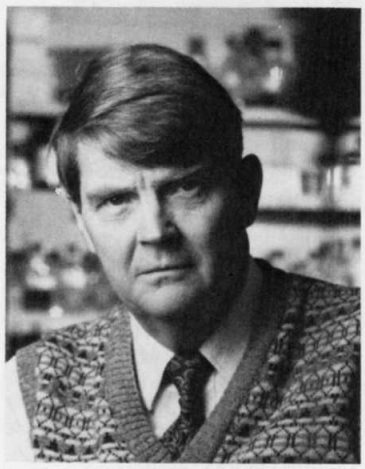
S. Lawrence Zipursky

S. Lawrence Zipursky, professor at the University of California, Los Angeles (UCLA), discusses "Molecular Genetics of *Drosophila* Visual System Development" at the Friday lecture today (May 31).

Zipursky studies the mechanisms regulating the development of the fly visual system. He and his colleagues focus on the intracellular signaling mechanisms regulating cell fate determination, the developmental control of cell cycle progression, and the mechanisms regulating the formation of specific

See ***Zipursky****, page 4*

Gotschlich recommended as VP for medical sciences



Professor Emil Gotschlich joined the university in 1960.

The executive committee of the Board of Trustees has recommended the appointment of Professor Emil C. Gotschlich as vice president for medical sciences, a recommendation that will be submitted for approval to the full board at the Thurs., June 13 meeting.

"Emil Gotschlich has a creative vision for fostering greater intellectual cohesion and community among the university's medical scientists. I am pleased that the Hospital search committee and the trustees' executive committee appreciate his enthusiasm for this new role," said President Torsten Wiesel. "He has built a strong record as a scientist and as a member of our faculty during more than three decades at the university. He is recognized nationally and internationally for his work in medical science."

The key responsibilities of the vice president for medical sciences are to plan future developments in scientific research based in the Hospital and to oversee Hospital operations. Increasing use of patient beds at the Hospital is also a priority. Gotschlich would continue as chair of the medical sciences search committee.

"I think the university community would be well served by even stronger connections between the

See ***Gotschlich****, page 2*

Evening concerts renamed for Peggy McGrath Rockefeller

1996-1997 season features works by Brahms

With the opening of subscriptions to the 1996-1997 season of evening concerts, the university has renamed the series the Peggy McGrath Rockefeller Concerts, honoring the late Margaret Rockefeller for her support of the university and its 38 years of night music.

"Our beloved friend Peggy McGrath Rockefeller, who passed away in March, was a cherished member of the university community for over 55 years," said Torsten Wiesel, president of the university. "She loved music, and her steadfast commitment to the concert series helped bring the joy of music to the campus community. It is with enduring affection that we dedicate the university concerts to her memory."

In a year that marks the 100th anniversary of the death of Johannes Brahms, many of the 1996-1997 concerts will present his compositions, starting with the Vermeer Quartet, which opens the season with clarinetist James Campbell in a performance of the Brahms clarinet quintet.

All concerts take place in Caspary Auditorium on Wednesday evenings at 8:00 P.M.

The program is:

- **Vermeer Quartet with James Campbell, Clarinet**
  Sept. 25, 1996
- **Trio Parnassus**
  Oct. 23
- **Truls Mørk, Cello**
  Nov. 20
- **New York Philharmonic Ensembles**
  Dec. 11
- **Ainhoa Arteta, Soprano**
  Jan. 22, 1997
- **Louis Lortie, Piano**
  Feb. 5
- **Combattimento Consort Amsterdam**
  April 9
- **Guarneri String Quartet**
  April 30

Subscription to the eight-performance series is $132. Members of the university community who subscribe before July 31 will receive a reduced price of $120. Students and postdoctoral fellows at The Rockefeller University, Memorial Sloan-Kettering Cancer Center, and New York Hospital-Cornell Medical Center may purchase up to two series tickets for $50. Before July 31, RU graduate and postdoctoral fellows pay $45.

The ticket exchange policy remains the same: Subscribers unable to attend a particular concert may exchange their unused tickets for another concert, allowing them to bring guests to the alternate concert. Such exchanges are permitted only if the concert coordinator is notified in advance of the unattended concert and tickets are available for the alternate date.

The preconcert buffet supper in the Abby Aldrich Rockefeller Dining Room is available, at $25 per person plus tax (wine is additional). Complete information will be mailed to those who check the relevant box on the subscription card. Members of the university community ordering concert tickets before July 12 will be given preference for buffet reservations.

"As in the past, we expect the suppers to be sold out. To ensure reservations, please send in your order to arrive before our outside mailing on Fri., July 12," advised Cathy Rogers, concert coordinator.

Founded in 1958 by the late RU Professor Theodore Shedlovsky, "the series provides an opportunity to hear world-renowned artists at a low cost made possible by special arrangement with the performers, gifts in support of the series, and the sponsorship of the university," said Associate Professor George Reeke, faculty advisor to the concert.

The concert brochure, schedule, and subscription information will be mailed to the campus community mid-June and to others a month later. For further information, call Rogers, x8437.

Trio Parnassus, a group of young Germans, performs in next year's evening concert series Wed., Oct. 23.

Gotschlich

(continued from page 1)

Hospital based physician-scientists and researchers outside the Hospital whose labs are pursuing research with clinical aspects," said Gotschlich. "I am also committed to modernizing the Hospital facilities, an effort begun with the current NIH grant under the leadership of Jules Hirsch."

Now heading the Laboratory of Bacterial Pathogenesis and Immunology with Vincent Fischetti, Gotschlich joined RU in 1960 as an associate physician and guest investigator in the lab of Maclyn McCarty (now professor emeritus) and the late Rebecca Lancefield. Gotschlich became an assistant professor in 1965, associate professor and physician in 1969, and professor and senior physician in 1978. He holds undergraduate and medical degrees from New York University and interned at Bellevue Hospital. Gotschlich interrupted his tenure at Rockefeller in 1966 to serve for two years as a captain in the U.S. Army Medical Corps, stationed at the Walter Reed Army Institute for Research.

Gotschlich received the Albert Lasker Award for Clinical Medicine in 1978 for his contributions to meningitis research. In 1974, he received the Squibb Award of the Infectious Diseases Society of America. The Institute of Medicine of the National Academy of Sciences elected him to membership in 1988.

At a morning ceremony Wed., May 29, the university dedicated the playground to David Lyons, a financial administrator who retired in December 1995 after serving RU for 26 years. Lyons noted that among his responsibilities in the 1970s, he was a parent volunteer on the playground, putting away toys night after night. "Children are always laughing whenever you walk by. It's nice to have my name on such a happy place," he said.

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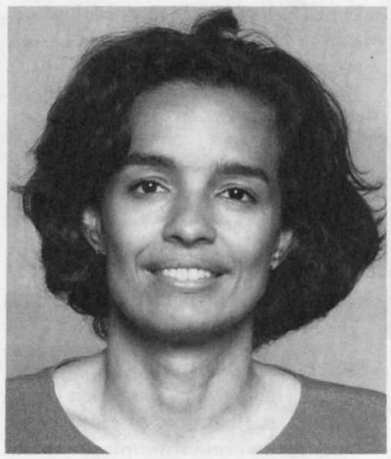
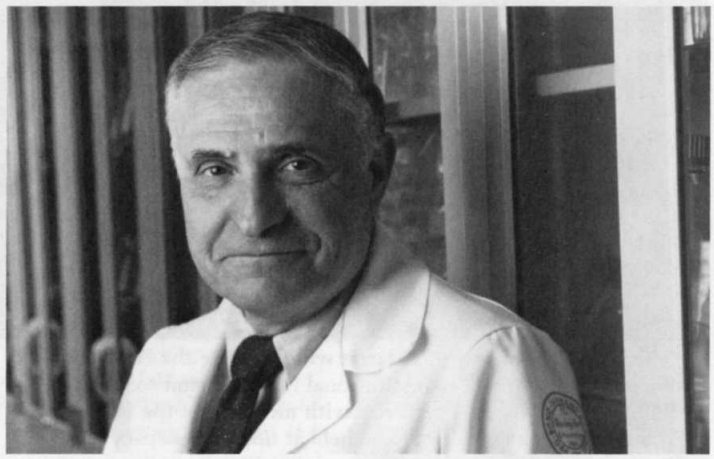
Let them eat oat bran

Researchers find low fat, high sugar diet prompts production of saturated fats

by Marion E. Glick





Media Resource Service Center

Lisa Cooper Hudgins (*left*), assistant professor and Frederick P. Rose Clinical Scholar, collaborated with Professor Jules Hirsch on the study, published in *The Journal of Clinical Investigation*.

Eating a low-fat diet may not always be as healthy as people wish. Results from a study in the Laboratory of Human Behavior and Metabolism, co-headed by Professor Jules Hirsch and Associate Professor Rudolph Liebel, show that people on weight-maintenance diets low in fat but high in sugar increase their production of saturated fat.

"Our study suggests that low-fat diets designed to maintain—not lose—weight could be a hazard for people who also eat lots of simple carbohydrates, mostly sugars," explained Assistant Professor Lisa Cooper Hudgins, first author of the study, which is reported in the May 1 *The Journal of Clinical Investigation* by Rockefeller University and University of California, Berkeley scientists. "Current public health recommendations suggest that people should reduce fat in their diets and increase their carbohydrates. However, too great a reduction in fats and too much of an increase in simple carbohydrates may prompt the body to make the sugar into saturated fats, which could harm the heart and blood vessels."

Previous studies showed that people make fats from carbohydrates when they eat more calories than they use. However, prior to the new study, scientists thought people did not make fat when they ate as many calories as they used.

Fat farming

The body stores fat mostly as triglycerides, large molecules containing saturated, monounsaturated, and polyunsaturated fats. Saturated fat, lacking a type of bonding among its carbon atoms, is associated with blockages of the heart's coronary arteries, a condition that affects millions of Americans.

The liver readily processes the fats in food for immediate use. Stored body fat is used as energy between meals. These fats, as well as those the liver can make from carbohydrates, are carried in the blood mainly as triglycerides. Fats in the blood that the body does not use right away are stored.

During the study, 10 healthy participants stayed at The Rockefeller University Hospital for nearly one month, eating low- and high-fat diets. Ranging in age from 20 to 57, the six men and four women were healthy nonsmokers weighing between 80 to 120 percent of an ideal body weight based on their height.

The researchers sampled each participant's body fat before they began their experimental diets to determine its composition of saturated, monounsaturated, and polyunsaturated fats. The scientists then closely matched the dietary fat composition to each participant's body fat by mixing lard, a saturated fat, with corn oil, a polyunsaturated fat, and olive oil, a monounsaturated fat.

The patients received for 25 days either a low- or high-fat liquid formula diet with enough calories to maintain constant weights. The low-fat diet had 10 percent of the calories from fat, 75 percent from carbohydrates in the form of the glucose polymers, short chains of glucose sugar molecules, and 15 percent from milk proteins. The high-fat diet had 40 percent calories from fat, 45 percent glucose polymers, and 15 percent protein. All participants received daily supplements of multivitamins, iron, and 5 grams of salt.

During the study, every two to three days, after an overnight fast, and over 24 hours at the end of the study, the scientists took blood samples from the participants to measure cholesterol, triglycerides, glucose, and insulin levels.

Written in the body

Subjects had minimal changes in the composition of their body fat. However, the seven on low-fat diets increased blood levels of saturated fats, which the body makes, and decreased levels of polyunsaturated fats, which the body cannot make.

Specifically, the composition of blood triglycerides among participants on the low-fat diet dramatically differed from the compositions of their diet and body triglycerides. For example, their circulating levels of palmitate, the major saturated fat, increased an average of 54 percent, and circulating linoleate, the major polyunsaturated fat, dropped an average of 44 percent, in comparison to the dietary and stored fats. In contrast, concentrations of the different triglyceride fats were similar in the blood, stored body fats, or diets of participants on the high-fat diet.

"We know that most of the saturated fats in the blood triglycerides of the people on the low-fat diets were newly made fats," explained Hirsch, senior author on the paper "Only three sources can be responsible for circulating fat. First, the body stores, which are very slow to change to circulating fat. Second, the diet, which we controlled. This leaves the third source, the body's production of new fats."

The fat track

In the study, the investigators used two new methods to measure the body's creation of fats. Hudgins established a new way to monitor saturated fats and polyunsaturated fats in blood, using the blood levels of the polyunsaturated fat linoleate as an index of newly created fat. The researchers calculated that newly made fat accounted for 34 to 54 percent of the blood's triglyceride in those on low-fat diets.

"We found that after 10 days, each participant's fat pattern in the blood was constant for the remainder of the study and did not fluctuate with meals," noted Hudgins, who also is an associate member and staff physician at the Comprehensive Lipid Control Center of the Rogosin Institute affiliated with New York Hospital and an assistant professor of pediatrics and medicine at New York Hospital.

The second new method, developed by coauthor Marc Hellerstein of the Department of Nutritional Sciences at the University of California, Berkeley, measures the body's use of acetate, a building block of fat. By tagging acetate provided in the diets, the research team traced it within the participants for 24 hours, finding that much more blood triglyceride contained the acetate's tag among participants on the low-fat diets, compared to those on the high-fat diets.

Hudgins noted that other simple sugars like fructose in fruits, sucrose in table sugar, or lactose in milk may behave similarly to the glucose polymers used in the study. Hellerstein has shown that fructose can stimulate fat creation in people after one day of eating, perhaps because of its direct uptake in the body and rapid processing by the liver.

Complex carbohydrates, such as the starches found in breads, vegetables, and pasta, may have less of an effect, said Hudgins, who is conducting studies of diets combining simple and complex carbohydrates eaten by people with normal or elevated blood and body fats.

Hudgins, Hirsch, and Hellerstein's coauthors include director of dietary services Cynthia Seidman, and research nutritionist Jolanta Diakun, both of Rockefeller, and Richard Neese, of the Department of Nutritional Sciences at the University of California, Berkeley.

The National Institute of Diabetes and Digestive and Kidney Diseases and the National Cancer Institute, both of the National Institutes of Health (NIH), supported the research. NIH also supports the Rockefeller University Hospital. The Nora Eccles Treadwell Foundation, the Frederick P. Rose Clinical Scholarship, and the American Diabetes Association

Potpourri

The Daryl Sherman Jazz Quartet will celebrate the American popular song at the Tri-Institutional Noon Recital today (May 31). Sherman (*above*) performs with members of the RU community. The concert, to be held at noon in Caspary Auditorium, is free. All are welcome.

Sculpture removal

The sculpture "Primo Piano" located next to the 66th St. drive will be removed on Mon., June 3 at 9:00 A.M. The sculpture's owner, C&M Arts, had loaned it to the university for a year.

Men's health

A colloquium on "Sex, Health and the Mid-life Man," moderated by journalist Robert Bazell and columnist Gail Sheehy, will take place Wed., June 5 from 8:30 A.M. to 1:00 P.M. in Caspary Auditorium. Admission is free. All are welcome.

Clinical Research Seminar

Bandaru Reddy, chief of the Division of Nutritional Carcinogenesis, American Health Foundation, discusses "Chemoprevention of Colon Cancer by Naturally-Occurring and Synthetic Antiinflammatory Agents" at the Clinical Research Seminar Wed., June 5 at noon in Nurses Residence 110B.

Fourth of July holiday

The university will be closed Thurs., July 4 and Fri., July 5.

Science fair winners

Rockefeller Science Outreach Programs participants won first place in biochemistry and third place in zoology at the 47th International Science and Engineering Fair in Tucson. Ting Luo of Stuyvesant High School received a first place prize of $500 for her research with postdoctoral associate Zhengxin Wang of the Roeder lab. The third place award of $250 went to Aaron Wong, also of Stuyvesant, for research with Ernst Wimmer in the Desplan lab.

McKnight scholar

Assistant Professor Ali Hemmati-Brivanlou received the McKnight Scholar award.

Computing Services workshops

Space is available in the following Computing Services workshops. Please leave voice mail at x7768 to register. You will be called to confirm registration.

Word for the Mac, Part II:
Tues., June 4, 10:00 A.M. to noon;

WordPerfect for Windows, I:
Tues., June 11, 10:00 A.M. to noon;

Excel, Part I:
Thurs., June 13, 10:00 A.M. to noon;

WordPerfect for Windows, II:
Tues., June 18, 10:00 A.M. to noon;

Excel, Part II:
Thurs., June 20, 10:00 A.M. to noon.

Budget

(continued from page 1)

tinue to make significant investments to improve our facilities and research environment. I take a lot of pleasure and pride in the progress we have made."

Forecasting income of $125.4 million in FY97, the proposed budget plans $125.1 million in expenditures, up $4.9 million from the year ending June 30. More than half of the increased expenses of the university are devoted to salary and wage increases for faculty and staff. (See sidebar, page 1).

The plan for FY97 includes capital expenditures of $10.8 million for campus improvements, such as: renovating laboratories in Bronk, Flexner, and Weiss, including major investments to accommodate the university's recruitment efforts in chemistry and medical sciences; updating, repairing, and restoring faculty apartment housing, especially Faculty House; and modernizing the library with electronic databases, security systems for materials, and a more up-to-date catalog. The university also plans to establish a gene-targeting facility to serve all researchers on campus.

In accounting for this year's financial progress and in constructing next year's budget, Bohen emphasized the benefits reaped from strong performances in the university endowment and in fundraising.

"The value of the university endowment rose to $691 million as of April 30, up from $605 million last June, a capital gain that translates into a significant boost for operations," said Bohen.

According to Bohen, over the past five years, the Development Office has also raised about $135 million in gifts. Development's current three-year fund-raising campaign began last year with the goal of building faculty strength and adding laboratories in accord with the needs and opportunities identified in the Academic Plan. The plan's recruitment and development proposals were made in anticipation of 19 faculty members reaching the traditional but not mandatory retirement age of 70 between 1995 and 2002. Funds from the campaign have supported the startup and continuing costs of the 13 newly recruited heads of lab and those promoted from within.

"The success in development, which has already met the goal of $21 million for the second year of the current campaign, supports this major initiative to build faculty strength," said Wiesel. "With our progress on two fronts—in recruitment, where we have attracted significant scientific talent in medical science, chemistry, and other areas, and in fund-raising—we feel confident of our ability to sustain our scientific productivity and preeminence."

The university's budget plan for FY97 contemplates only a modest increase of 3 percent, or $1.2 million, in government support for research. Bohen noted that balance has been achieved in the university's ledgers in recent years even though government support, historically the principal source of income for the university, is gradually declining in real terms.

Given this, Bohen continued, "The university must constantly cut back, or 'prune' from activities of less importance in order to focus its limited funds on the most urgent needs or compelling opportunities. And in light of this stagnation in government funding, we must continue our progress in endowment investment and our fundraising program."

Bohen also believes that continued thrift is essential. "Simply eliminating an operating deficit, especially a large one, is a major task all by itself," he pointed out. "But we have ended the drag of deficits, while simultaneously making major investments to strengthen the university's scientific capability. This progress has not come without some loss, sacrifice, and distress. But that is the price of progress when resources, overall, are limited and growing only modestly each year. Unless the government decides to reinforce significantly its support of basic science, Rockefeller will need to continue to steer forward with great care and control."

Zipursky gives Friday lecture

(continued from page 1)

neuronal connections.

The retina is composed of some 800 identical units called ommatidia, with each ommatidium containing eight photoreceptor cells (R cells). Studying the development of the R7 subclass of photoreceptor cells, Zipursky's lab identified a gene that must be expressed in the neighboring R8 cell to induce the development of R7. Further study of R cell development may help to uncover how the specificity of neuronal wiring is established.

"Larry's lab has contributed a great deal to our understanding of the molecular mechanisms underlying cell fate determination in the developing visual system of the fly by ingeniously combining molecular and genetic approaches," said Assistant Professor Ulrike Gaul, who introduces Zipursky today. "Recently, Larry has succeeded in applying similar strategies to studying the complex and much less well-understood processes underlying the establishment of neural connectivity during development."

Zipursky received his doctoral degree in 1981 from Albert Einstein College of Medicine, then did postdoctoral work at the California Institute of Technology. He joined UCLA in 1985 as an assistant professor and was promoted to professor in 1993. He became an investigator of the Howard Hughes Medical Institute in 1994.

Zipursky has received the Alfred P. Sloan Award and the American Cancer Society Faculty Research Award.

The lecture takes place at 3:45 P.M. in Caspary and is preceded by tea at 3:15 P.M. All are welcome.