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The Rockefeller University granted 20 Ph.D. and two honorary degrees June 18. For excerpts of the proceedings, see pages 3-6.

President holds 'town meeting'

President Torsten Wiesel presided over a "town meeting" of the university community in Caspary Auditorium last Friday, where he and Fred Bohen, executive vice president and chief operating officer, reported that the financial situation of the university has improved in this fiscal year and that they were optimistic about the future.

"The good news as I see it is that we are on the right track," said Wiesel in his opening remarks. "The spirit is good among faculty and those who work here. We all are partners in this adventure."

Bohen, who said his mood was not only hopeful but "one of great confidence," went on to explain how the university's financial situation is moving in the right

direction. He stated that:

- Over \$28 million in new gifts and pledges were raised this fiscal year, compared with \$9 million two years ago and \$11 million last year;
- The operating deficit was cut by \$5 million or 40 percent the last fiscal year. The operating deficit this fiscal year was \$7.4 million, compared with \$11.3 million in 1990 and \$12.3 in 1991;
- The endowment increased \$100 million over the last 18 months in good part because the university refinanced the new lab building through long-term, low-rate bonds, returning funds to the endowment when the stock market was on the rise.

"The Rockefeller this year turned the corner on several key problems," Bohen said. "While we're not out of the woods in all respects, we have made the kind of progress that ought to give all of you confidence in the vitality of the institution and the contributions that you can make here."

According to Bohen, the administration will keep moving towards a balanced budget by cutting administrative and support costs, encouraging labs to be less dependent on university resources, and raising the university's income by maintaining high levels of private support and encouraging faculty to continue efforts to increase government funding of research. The goal for next year is to further reduce the operating deficit to less than \$6 million. This represents a reduction of more than 50 percent over a two-year period.

Bohen noted other highlights of the last year, including the completion of the new lab building (see story, page 8), the installation of the new telecommunications system, and the hiring of new leadership, such as Penny Cook, director of the Office of Sponsored Programs, Ingrid Reed, vice president for public affairs and corporate secretary, and Frank Lees, director of information and computing services.

After Wiesel's and Bohen's presentations were complete, members of the university community asked questions about the university's recycling program (see story, page 2), and presented other ideas to cut costs and reduce waste. Wiesel said that he plans to hold similar "town meetings" on a regular basis.

SURF participants test the scientific waters at Rockefeller

A dozen undergraduates arrived on The Rockefeller University campus last week to take part in the Summer Undergraduate Research Fellow (SURF) program.

"Bringing young people to our labs enables them to develop their budding interest in science," said Marjorie Russel, associate professor and dean of admissions. "It also helps spread the word about Rockefeller among colleges. Several SURFers have gone on to apply to our graduate program."

The SURF participants are already immersed in their work in the laboratory. Nicolette Zarday, who attends Brown University, said: "I have been working closely with a graduate student in the Alvarez-Buylla lab doing experiments on neurogenesis in mice. Since I've never worked in a lab before, I've been spending a lot of time learning new techniques and thinking about how to do experiments. I'm really learning a lot."

During their time here, the SURF fellows and other undergraduates, who made independent arrangements with labs, will participate in a weekly journal club organized by five Rockefeller graduate students—Barbara Sampson, Firdaus Dhabhar, Carlos Lois, Arthur Tinkelenberg, and Anshu Vahishtha.

"The purpose of the club is to give the participants experience talking about science," said Sampson. "They will give two short presentations, the first on a paper they select and the second on the research they are conducting at RU."

"The journal club is good for the graduate organizers, too," she continued. "It's nearly the only chance we have to get experience teaching undergraduates."

There were almost 100 applicants to the SURF program this year.

The selection committee—Steve DiNardo, Bruce McEwen, Russel, and Mike Young—picked a mix of students to participate in the program.

"Some of the students we selected have demonstrated potential in science," said Russel. "Others attend colleges unable to provide any real lab experience."

The SURF program, funded by an anonymous donor about eight years ago, supports 10 summer undergraduate research fellows. Additional positions in the program are made possible by Howard Hughes Medical Institute investigators, who receive funding to support undergraduate researchers.



Participants in the Summer Undergraduate Research Fellow (SURF) program get to know each other at a luncheon last week.

2 Board elects two new trustees

7 Science writers say, 'Keep it simple'

8 New lab building opens its doors

Board elects two new trustees

The Rockefeller University trustees elected two new members—a prominent executive in the pharmaceutical field and a distinguished leader in national and New York City affairs—to the board at its meeting Wed., June 17. They are Ernest Mario, deputy chairman and chief executive of Glaxo Holdings p.l.c., and Alair Townsend, publisher of *Crain's New York Business*.

Mario has been chief executive of Glaxo Holdings since 1989 and deputy chairman since 1991. Prior to joining Glaxo in 1986, he worked for Squibb Corporation, where he rose through the ranks to the position of chairman and chief executive officer of Squibb Medical Products and was elected to the board of Squibb Corporation.

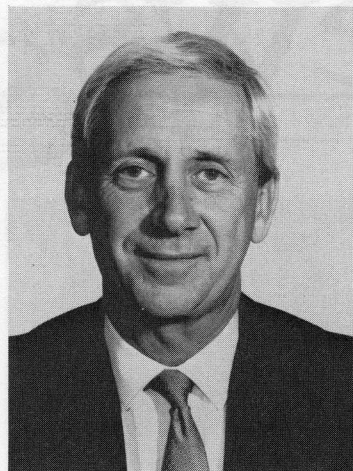
He is chairman of the U.S. National Foundation for Infectious Diseases and chairman of the American Foundation for Pharmaceutical Education. He is a member of the North Carolina Institute of Medicine, trustee of Duke University, and a member of the Business School Board of Visitors of the University of North Carolina at Chapel Hill. At the University of Rhode Island, he is member of the President's Council, a trustee of the

university's foundation, and a pharmacy faculty advisor. At Rutgers University, he is a trustee as well as pharmacy faculty advisor.

Mario earned a B.S. in pharmacy from Rutgers College of Pharmacy and master's and doctorate degrees in physical sciences from the University of Rhode Island at Kingston.

Townsend has been publisher of the weekly newspaper *Crain's New York Business* since 1989. This appointment followed a public service career in New York City and Washington, D.C. Townsend was New York City's deputy mayor for finance and economic development, and the City's budget director. Her posts in Washington, D.C., included associate director of the budget committee of the House of Representatives, assistant secretary for management and budget of the United States Department of Health and Human Services, and staff director of the subcommittee on fiscal policy of the Joint Economic Committee of Congress.

She has been elected to the national Academy of Public Administration and the New York City Partnership. She is a member of the Financial Women's Association, Committee for Economic



Ernest Mario

Development, Women's Forum, the CUNY Business Advisory Council, Council on Foreign Relations, and Advertising Women of New York. She is a board member of the Business Council of New York State, New York Chamber of Commerce and Industry, The Japan Society, and Gateway America Committee. She is also chairman of



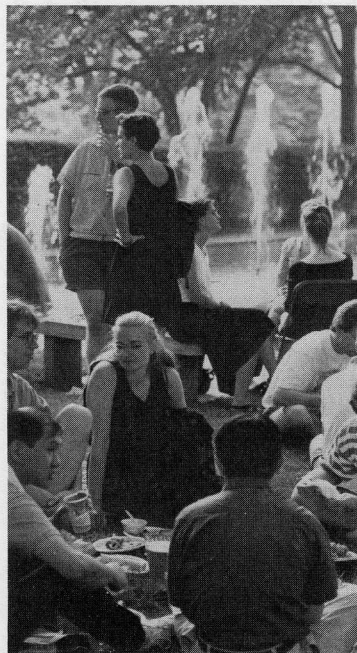
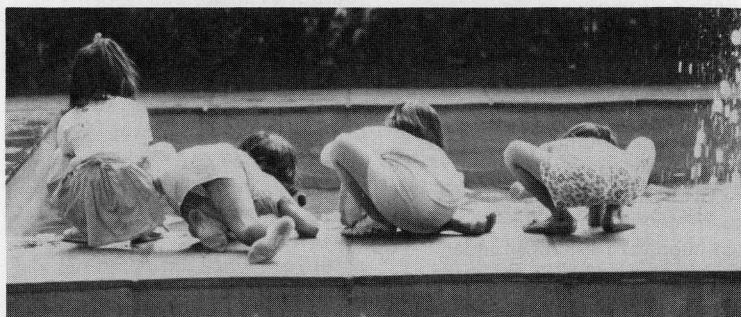
Alair Townsend

the American Woman's Economic Development Committee.

Townsend is a phi beta kappa graduate of Elmira College and holds a master's degree from the University of Wisconsin.

Trustees are elected to the board for three-year renewable terms. Including President Torsten Wiesel, the number of trustees is now 33.

RU barbecue, 1992



Many enjoyed the food and sunshine at the barbecue, June 12.

Recycling revisited—how, when, where

In response to questions about recycling raised at the university meeting Fri., June 19, Custodial Services sent News&Notes the following review of recycling procedures.

The university recycles white paper, glass, aluminum, plastic, and newspaper.

White paper constitutes the largest percentage of recyclables and is the only material collected from the labs and offices by Custodial Services. White paper includes: all white bond paper, copier paper, and computer paper (including green and white bar, multi-stripe and tab cards). It is collected once a week from the collection points within each lab/office and is deposited in bins near the 64th Street gate for a private carter to pick up. Neither the city nor private carters currently accept periodicals or colored paper for recycling. Including colored or glossy paper with the white paper jeopardizes the university's arrangements with the carter.

The recycling of glass, aluminum, and plastic is dependent upon individual participation. Employees should bring these materials to recycling stations at:

- Tower first floor;
- Bronk second floor entrance;
- Hospital A level, outside the clinic area;
- Sophie Fricke, outside the entrance;
- Founder's Hall second floor, near Payroll;
- Smith B floor entrance;
- Flexner B floor entrance;
- Abby Aldrich first floor, near the Faculty and Students Club.

The recycling stations consist of

two, blue 25-gallon barrels—one for glass and plastic, the other for aluminum. When the barrels are full, Custodial Services takes the contents to the white dumpsters located near the 64th Street gate for weekly pickup by New York City's crews. Including other materials with the glass, plastic, and aluminum could result in losing City service. Laboratory glass and plasticware cannot be recycled. Individuals should bring newspaper to the central bin in the 64th St. parking lot.

The university is currently researching recycling outlets for cardboard and styrofoam. For further information, contact Tom Mineo, supervisor of Custodial Services, x8118. Requests for collection of recyclables should be addressed to Peter Cassidy, x8118.

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Ideas and submissions can be sent interoffice (Box 68), by electronic mail (*newsno*), or by fax (212-327-7876).

The Rockefeller University is an equal opportunity employer and has an affirmative action program to increase the employment of women and members of protected groups at all job levels.



Convocation: advisers present fellows for Ph.D.s, with pride

On Thurs., June 18, 20 fellows from The Rockefeller University received the degree of doctor of philosophy. Mary Kilar Baylies and Marina R. Picciotto were granted degrees in absentia. In addition, honorary degrees were conferred on Arnold O. Beckman and Vincent P. Dole. Following are excerpts from the presentations.

Nathan Bahary

Nathan came to the lab at the suggestion of Rudy Leibel with whom we both work. He expected to spend a year hiatus from Cornell Medical School where he was first in his medical school class. It took him five years to leave and he takes with him a Ph.D. and the knowledge that he has succeeded in transforming himself into a first-rate scientist.

As a student, Nathan focused on efforts to clone mutant genes from mice that cause obesity. He quickly appreciated the importance of these studies, which may ultimately shed some light on the molecular mechanisms which control body weight and health and disease. In his time at Rockefeller, he quickly integrated the requisite intellectual and technical skills to clone these genes. In the course of these studies, he used a variety of techniques to localize these obesity genes, the mouse *ob* and *db* genes, to very short intervals on mouse chromosomes four and six. He has, in fact, identified cloned pieces of DNA that are tightly linked to the *ob* and *db* genes that are now being used to initiate efforts to clone these genes.

Nathan himself can best be described as selfless. He has innumerable friends and as a testimony to his giving spirit has helped each of them move apartments on several occasions. He is known as "the moving man" by many of his friends and acquaintances. In the lab he would spend countless hours helping others with problems ranging from cloning to computers. Nate is the sort of person who makes everyone around him better, including me. He leaves to complete his medical training at Harvard Medical School. He will be sorely missed and fondly remembered.

—Jeffrey Friedman

Mary R. Borrous

Mary Ruth Burrous graduated in 1985 from Oberlin College where she majored in chemistry. She was then accepted into the very competitive Cornell-Rockefeller M.D.-Ph.D. program. Mary worked

with me first on the amphibian retina, then on the primate retina, including the human retina. She used very sensitive methods to detect the presence of the class 1 major histocompatibility complex antigens on retinal neurons. Another exciting result from her work was that adult neurons from the CNS are capable of regrowing their processes to a far greater extent than previously thought possible, thereby encouraging efforts to look for conditions that will support a return of function following injury to the central nervous system.

It was a pleasure and a learning experience to be Mary's advisor as she brought dedication, skill, and a certain boldness and scientific intuition to her experimental work. I am sure if Mary had the opportunity she would publicly thank Professor Wiesel for his constant encouragement, guidance and overall mentoring in the ways of good science.

The past year has been filled with wonderful events for Mary and her family. She got married in May, her husband Ed O'Malley received his Ph.D. a few weeks ago, and now she will receive her Ph.D.

—Peter R. MacLeish

Robert Lawrence Camp

Bob received a strong liberal arts education at Swarthmore College and is knowledgeable beyond any formal education in subjects such as music, opera, theater, and literature. Bob also loves to travel.

I was pleased when Bob chose to pursue his interest in cellular and molecular immunology in the lab because he was enthusiastic and bright. But what raised my expectations most was something relayed in a letter of recommenda-

tion from his undergraduate research advisor who indicated that Bob had had to practically turn a broom closet into a "lab" to carry out his independent undergraduate research. He displayed much of the same kind of resourcefulness and drive as a graduate student.

Bob's thesis work demonstrated that there is a differentiation associated and cell lineage specific coordinated regulation of the glycosylation, phosphorylation, and cytoskeletal association of the leukocyte cell surface protein CD44. In the last several months since completing the requirements for his degree, he has also obtained exciting new data regarding the adhesion and homing receptor functions of CD44. This molecule is thought to serve important functions in leukocyte development and trafficking and is associated with the metastatic potential of many types of tumor cells.

Bob, I will miss the hours we have spent hashing out, sometimes loudly, our often grandiose plans. I will especially miss how you effectively resolved our notions by doing the right experiments and how you accomplished more than even I could ask for.

—Ellen Puré

Lisa Jeanette Croner

Lisa studied art and biology in college, and her approach to neuroscience was inspired by this background. In her search for the big picture, she decided to investigate how the visual world is analyzed by portions of the retina at various distances from the center of gaze (fovea). The publication of her results is eagerly awaited by those who wish to construct detailed quantitative models of the

visual system. Her work revealed intriguing design principles of the retina, and showed us how the visual system strives to balance the various constraints imposed on it by optics and function. She also analyzed the variability of the discharge of ganglion cells in the primate retina, and her results pointed to a possible source for this response variability.

Lisa likes to teach, and soon after arriving at the lab wrote a detailed guide for conducting experiments in the lab. This became an invaluable gift for all new arrivals. In the fall Lisa will start a post-doctoral fellowship at the Salk Institute, where she will investigate how messages from various parts of the visual field are integrated into a single percept to guide behavior.

—Ehud Kaplan

Elizabeth de Beus

Elizabeth de Beus identified and characterized a nuclear protein from yeast that is essential for viability. The protein is likely to be a yeast homolog (47% identity) of a nuclear protein in mammalian cells, referred to as PCNP 120 (proliferating cell nuclear protein of 120 KDa). As the name implies, this protein is present primarily in rapidly dividing cells. Its precise function in either yeast or mammalian cells remains to be determined. In mammalian cells, PCNP 120 is found primarily in nucleoli. In yeast it is found in nucleoli and near the nuclear envelope. The availability of the yeast gene should facilitate further studies on the function of this protein.

—Günter Blobel

(continued on next page)



Participants in this year's convocation ceremony pose in front of Founder's Hall.

Graduates will be missed and remembered

David Parrish Edwards

David studied physics in college before coming to Rockefeller, and in his thesis work combined his intense curiosity about the brain with considerable skills as an experimentalist and computer wizard. His subject was the investigation of the contrast sensitivity of cells in the visual cortex of primates. This part of the brain contains a regular array of blobs, which stain heavily for the enzyme cytochrome oxidase, and David analyzed the responses of cells in and around these blobs. He found that the cells that are best suited for the detection of patterns live in the blobs. David developed some new quantitative tools in order to achieve this goal, tools which we and others will continue to use. He studied several other properties of cells in the cortex, and added measurably to our understanding of the capacities and possible function of these intriguing blob regions. He is about to complete his medical education, and plans to pursue a career in academic medicine.

—Ehud Kaplan

Ioannis Giannakis

I have worked quite closely with a number of graduate students before, but Ioannis is the first student to graduate with me as the advisor of record, so that it is with some pride that I present him for his degree today. Fortunately for his neophyte advisor, he has the makings of an excellent scientist.

The theory of elementary particles covers a remarkably large area, and the field sometimes seems to be divided into several mutually antagonistic camps, but Ioannis has shown the ability to work and publish broadly. His thesis is on string theory, perhaps the most ambitious and sophisticated attempt yet to synthesize all the phenomena of particle physics into a single theory. String theory is like the Republican party—it is the “big tent” of physics. He addressed other questions, such as why there is more matter than anti-matter in the universe, which is as close as he got to being clinically relevant. He has asked why the universe is bigger than it should be by a factor of the sixtieth power of ten—the universe is a really big tent. And he has thought about experiments that hint tantalizingly that those ghostly neutrinos are not massless, and asked whether they are consistent with the rest of the phenomenology of particle physics.

Ioannis is from Greece, where particle physics was invented, from

Macedonia no less, and I have learned much from him. I have learned that the Yugoslav republic of Macedonia is called Skopje. I have finally learned how to pronounce all those Greek letters we use all the time.

—Mark Evans

Anne Hermanowski-Vosatka

When Anne came to my laboratory, she embarked on a project that was very “ordinary.” She sought to follow alterations in the metabolism of gangliosides caused by stimulation of white blood cells. What she found, however, was extraordinary. Anne showed that stimulation of white blood cells gives rise to a new lipid, which appears in the ganglioside fraction, and this new molecule acts as a novel intracellular messenger. It binds to and alters the avidity of the principal adhesion protein on the white cell. By changing the adhesion proteins, Anne’s molecule makes the cells more sticky, enabling them to adhere to the blood vessel wall and begin their journey out of the blood stream. Her findings provide a surprising answer to the long-standing question of how adhesion proteins are regulated, and they have opened a new chapter in lipid biochemistry.

Anne’s work is more extraordinary for the way it was accomplished. She was not a small part of a large lab effort. Rather, she did the ground-breaking work herself, learning new techniques and applying them thoughtfully step by step. She did the experiments with a keen sense of discovery, with a strong sense of humor, and with many loaves of fresh baked bread from her automated bakery in the Graduate Student Residence. She maintained a high rate of productivity despite having to care for the physical and emotional health of two of the most ingratiating little brown dogs I have ever seen.

—Samuel Wright

Ran Jia

Ran Jia is a graduate of Peking Union Medical College, which was built early in this century by support from the Rockefeller family. Ran joined us after initial study in Dr. Bob Roeder’s laboratory, and decided to work on a novel oncogene of an avian sarcoma-leukemia virus. Ran isolated cDNA clones containing the oncogene and made a solid analysis of the structure.

Ran has produced reliable data,

and his research has progressed steadily without too many stumbles. In fact, this capacity of Ran was also demonstrated in his methodical handling of his wedding to Min. I am happy to report his first baby was born last night.

Ran is very helpful to us as a source of information; he is familiar with published papers and rumors of unpublished data, and he knows a lot about newly developed techniques and equipment. He is also very good at gathering news of events on and off campus—even of his home country. Obviously, curiosity is a very important attribute for a scientist, and we are looking forward to seeing his growth as a researcher of developmental biology, a subject he has chosen to pursue in Tom Jessel’s laboratory at Columbia University after this summer.

—Hidesaburo Hanafusa

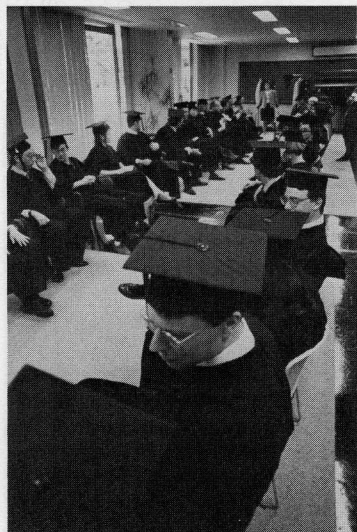
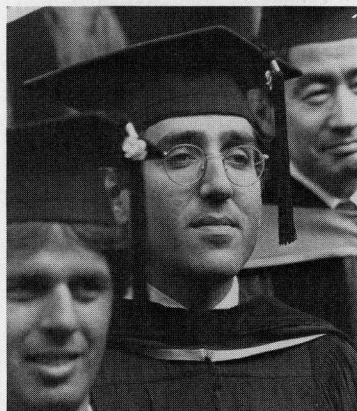
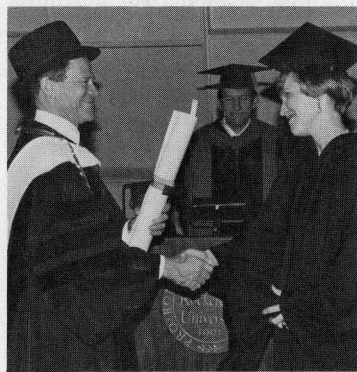
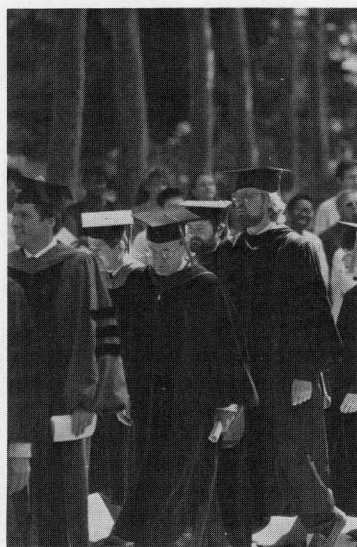
Robert Kovelman

Robert is a native New Yorker who received his B.A. from Columbia College. Happily for me, he joined our laboratory to study the biochemistry of mammalian gene expression and focussed on transcriptional control by the product of a viral cancer gene. With diligence and insight he succeeded in the purification and characterization of a remarkably complex cellular regulatory factor which is crucial for this process and which had resisted the efforts of several predecessors. His work further identified a sub-component as a target for the viral oncogene and importantly, set the stage for structure-function studies that will occupy the efforts of others in our lab for years to come.

While pursuing this demanding project, Robert nonetheless found time to pursue other interests. He took advantage of local cultural events, occasionally organizing laboratory excursions to them, and he pursued intensely his interest in cycling—not always using the best judgment in getting to more hospitable outlying areas. He also took advantage of opportunities to attend scientific meetings, especially in California and at Colorado ski resorts.

Back in the lab, Robert was not only an active bench scientist but a wonderful colleague—remarkably helpful and friendly both to his co-workers and to the administrative and secretarial staff. His presence has helped to make a large and sometimes hectic laboratory a more enjoyable and productive workplace, and he will be greatly missed.

Robert will pursue postdoctoral research at the Scripps Institute in



From top to bottom: Faculty march in the procession; Anne Hermanowski-Vosatka receives her degree; Nathan Bahary looks ahead; marchers gather before the event.

La Jolla—and I'm told he has already scouted the local bike trails.

—Robert G. Roeder

Jeffrey F. Krane

When Jeff entered the program here he was already a careful and considered scientist. He decided to pursue thesis research on the pathogenesis of psoriasis, a skin disease which affects millions of people and which cannot be studied in animal models due to differences in skin structure. In electing to study a human disease directly, Jeff accepted the dual challenges of advancing knowledge about epithelial cell growth control mechanisms and dealing directly with humans who suffer from painful, long-standing diseases.

Jeff began his research by studying the epidermal growth factor (EGF) receptor in the keratinocyte, the cell type which forms the outer skin boundary and whose growth is abnormally high in psoriasis. Jeff discovered that keratinocyte growth is likely to be governed by interactions of the EGF receptor with another growth factor system related to insulin. He went on to characterize the expression and probable functions of other growth factor pathways in human skin or skin cells and to identify biochemical pathways through which growth factor receptor expression could be modulated. His work may bear directly on the therapy for this disease.

Jeff has returned to Cornell University Medical College where his studies will lead to a lifetime dedicated to the scientific understanding and treatment of human diseases, particularly those of the skin, man's largest organ.

—James Krueger

Kent Lynn Nastiuk

On a cold night in January about five years ago I was sitting in my lab facing the anxious prospect of writing my first grant proposal. One of the scary things you confront when you're doing a task like that for the first time is the question: who is ever going to be crazy enough to jump off the pier with me? Just at that very moment, this figure in a long black coat came gliding into my lab and introduced himself. Within five minutes it was apparent I'd found my man, and my first student. His name? Kent Nastiuk. In that same five minutes I learned a couple of other things about Kent, things that say a lot about his personality and his science. First, he was interested in

steroids. That was what mattered to him, and that served as the organizing principle for his graduate work. Second, it really mattered that I pronounce his name right. Yes, Kent is a person you have to take note of, a person whose terms you have to meet.

I'm proud and pleased to have worked with Kent and I'm proud and pleased he survived his term with me and is here to receive his sheepskin. He kept his balance, not only through the inevitable failures and false steps of any research expedition, but also through the lab's growth, two moves, and 900 miles of separation between himself and his advisor for the past year and a half. I'd like to think I exerted some influence on him, and I'm sure I have. I'm also sure that Kent's accomplishment is mostly a testimony to his own innate perseverance, his quick mind, his spirit, and his heart.

—David Clayton

Ruta Nonacs

We are all familiar with the fact that the influenza virus continues to cause respiratory disease almost every winter. In addition, this virus can undergo marked genetic changes that could produce severe epidemics at any time. Scientists must learn to outfox this virus. The problem is so challenging that influenza and the AIDS virus compete rather well for the title of "mother of all viruses." It is this challenge that Ruta Nonacs approached in her thesis work. Although she did not come up with an improved flu vaccine, Ruta worked out several features that led to a better immune response in tissue culture. She studied three different types of cells individually, and then allowed them to interact to yield a high level of resistance to influenza. Ruta's work illustrates a bright side to influenza research that many scientists have found: by trying to understand how this particular virus works, one often uncovers principles that apply generally to the immune system.

There is also a bright side to Ruta's personality, a warm disposition that is as infectious as the virus she studied. But how does she manage this? I think it is because Ruta has strong outside interests. She takes long bicycle trips on almost every weekend she is in town. The weekends that Ruta is not in town, she leaves the lab to travel the world with her mother. They have accumulated material for a book on the best pastry and coffee shops across the globe. Ruta has to travel less now that she is completing her medical training. Ruta has

both the skills and the disposition that energize our profession.

—Ralph Steinman

Anne Louise Prieto Cruse

Anne came to our laboratory five years ago after close scrutiny—it was not we who scrutinized her so much as she who scrutinized us! She interviewed everyone in the lab, sometimes twice. We were happy when she joined the laboratory because she brought this same care and discrimination to her work.

Anne became interested in the localization in the body of cytotactin, an unusual extracellular matrix protein that is important in neural development and regeneration. We had shown that the protein was restricted to particular places, but since it was extracellular, were unsure of its site of synthesis. Anne showed that cytotactin could be synthesized by many more cell types than had previously been thought. Her work also provided the most careful analysis to date of the distribution of this protein and its messenger RNA in the developing brain.

Her subsequent studies drew her into an analysis of the multidomain protein cytotactin, which causes cultured cells to round up, inhibits their cell division, and retards neurite outgrowth. Her work showed that at least four separate sites in the molecule have biological effects: some were adhesive and promoted cell attachment and others were "counteradhesive" and inhibited the attachment of cells to otherwise positive substrates. This work rationalized many disparate studies and provided a basis for ongoing work to isolate cytotactin receptors on the cell surface.

Anita is generous, hard-working, and patient, both with her colleagues and her experiments. In her work as well as her personal interactions, Anne has distinguished herself as a real professional. She is a credit to Chile, the country that provided her initial training, to her family who is here to share in her success, and to herself as a true scientist of great potential. We are delighted that she will remain with the laboratory for the next year as we relocate to The Scripps Research Institute in La Jolla, California.

—Kathryn Crossin

John Thomas Seykora

When John entered my laboratory (a rather grandiose term since my laboratory at that time consisted of myself and a technician), he wanted to understand more fully the

mechanism by which an immune effector cell called the macrophage orchestrated the inflammatory response. We needed to understand the molecular mechanism by which the macrophage perceives its environment and formulates an appropriate response to it. It soon became apparent that an enzyme called Protein Kinase C had an important role; the next step was to identify and characterize the molecules (termed substrates) through which the kinase acts. John helped identify an important substrate; he next cloned the gene encoding the protein and this led to a complete analysis of the structure-function relationship of the protein.

John is currently completing his medical degree and has decided to focus on pathology. John is a very talented and interesting person. He is an outstanding athlete who has been one of the mainstays of the Rockefeller running team. At the same time, he maintained a keen interest in philosophy and music.

John also has a vast reservoir of utterly useless information. No one knows more about bodies of water than John. Only John knows the name and depth of the fourth clearest lake in Peru. This unending font of information has been a source of good cheer during the long and often tedious periods that accompany laboratory work.

A more important event than his Ph.D. was that John met Janet. I immediately knew that something was afoot since he was often irrational and seemed in a daze. They were subsequently married and it was obvious how much they enriched each others lives. Sadly, John and Janet suffered a tragic personal loss last year. Their courage and depth of character in dealing with the loss of a child was an inspiration to me.

—Alan Aderem

David William Sternberg

My first encounter with David was in Berkeley: after my seminar a student introduced himself and asked whether he could join my laboratory as an M.D.-Ph.D. student. I gladly agreed. Then, before coming to New York, he made a trip to Japan together with John Seykora, another graduating student on the platform today. David also took a Japanese language course there. You might think this extraordinary preparation for work with a Japanese mentor, but of course it was because of his genuine interest in Japanese culture.

Anyway, David was a superb

(continued on next page)

Honorary degrees recognize leaders with outstanding qualities

student. Before starting research he made a careful search, and came up with an idea for his own project. Remarkably, he has stuck to this initial proposal. The project is to identify a serine kinase whose enzyme activity is up-regulated by tyrosine phosphorylation by the src protein tyrosine kinase in cells transformed by Rous sarcoma virus. He encountered numerous difficulties, but overcame them by hard work.

Because of his sincere, open, and friendly personality as well as his broad knowledge, David is respected by everybody who knows him. He has provided help to many colleagues not only in our laboratory but also in neighboring institutions. With his compassion and intelligence, I have no doubt of his successful future as either a physician or scientist. David has started to complete his medical training at Cornell Medical College before he decides on his future. I should express my congratulations in Japanese, "omedetoh, David."

—Hidesaburo Hanafusa

Rafael Marcos Yuste Rojas

In the course of a scientific career one has the opportunity to work with a diverse group of colleagues. In a broad sense they fall into just a few categories. One is the meticulous, painstakingly practitioner who, using great care and familiar tools, slowly and carefully adds one brick at a time to the edifice of science. As graduate students they focus on well defined problems, have neat desks and benches, and keep careful notes. For us, especially beginning assistant professors, these are wonderful students to have.

This is not Rafael. He belongs, instead, to a much more rare and far more special group of scientists. He's the kind of student who in his

first few weeks in the lab managed to accomplish feats like burning an image of a light bulb onto an ultrasensitive, ultraexpensive video camera, or baptizing a microscope with corrosive salt solution. But these are small things.

What makes Rafa a truly exceptional scientist is courage and imagination. The courage to ask the really big questions, like "how does the brain work?" and the imagination to see a truly new way of looking at the brain. His discoveries, which will be published in *Science*, reveal a fundamental and extremely exciting new aspect of how the developing brain gets wired together. These discoveries promise to revolutionize our thinking of early brain organization.

I would love to take credit for Rafa's accomplishments, but in truth I can only take credit for two things: giving him the time and space to allow him to explore new ideas, and for setting him up on a blind date to a very special woman. Rafael will be doing a postdoctoral fellowship at Bell Labs, and will be married next spring. Of this, and of his beautiful and elegant work over the past few years, I am very proud.

—Lawrence C. Katz

Yuhang Zhao

Like Ran Jia, Yuhang Zhao, a graduate of Peking University, also received brief training in Dr. Bob Roeder's laboratory. Then she began to work under the guidance of Dr. Marius Sudol, assistant professor in my group, on the expression of some proto-oncogenes, cellular genes whose mutations can cause cancer.

Her numerous accomplishments in the lab are results of Yuhang's remarkable concentration and persistence. She managed to learn various techniques through

collaborations with people on both this campus and outside and, in return, she also gave assistance to other people. As she became more confident, most of her studies in her second half were results of her own ideas and initiatives. But most remarkable about Yuhang was her boundless energy and quickness in thought and action. Often, in our conversation she finished a sentence I began. Apparently, her mother once told Yuhang that she started

to run before she started to walk. After five years' experience, however, she has grown into a mature scientist who knows how carefully one has to proceed to achieve high quality work. Yuhang will stay for one more year as a postdoctoral fellow to finish her analysis of binding proteins.

—Hidesaburo Hanafusa

Arnold O. Beckman

Honorary degree

Arnold O. Beckman, you possess a rare combination of outstanding qualities—a scientist's curiosity; an entrepreneur's spirit; the heart of a humanitarian and philanthropist.

We scientists owe you a personal debt of gratitude for many innovations in laboratory instrumentation. The pace of biomedical research today would be unimaginable without the revolution in laboratory technology that began in 1935 when Arnold Beckman, a blacksmith's son from Illinois, founded Beckman Instruments. Your PH meter was the first general-purpose chemical instrument to make use of electronic circuitry. This instrument is still a universal fixture in every laboratory. It was soon followed by the helipot, the DUR spectrophotometer, the analytical centrifuge, and many others. Today Beckman Instruments manufactures scores of analytical instruments and thousands of related chemical products that are indispensable for medicine, science, education, industry, agriculture, and space exploration. Since the late 1950s, Beckman has played a particularly important role in the commercialization of the amino acid analyzer and solid phase peptide synthesizer created here at The Rockefeller by Drs. Moore, Stein, and Merrifield.

Then you set out on another career as a philanthropist with a keen eye for making wise and generous investments in the future of scientific research. The Arnold and Mabel Beckman Foundation has emerged as one of the nation's largest and most enlightened benefactions dedicated to scientific research. Here at Rockefeller, Dr. Beckman's philanthropy has strengthened almost every facet of biomedical research in our laboratories by providing support for numerous graduate students, postdoctoral investigators, and faculty members. One of today's graduates, Dr. Nathan Bahary, has been a Beckman fellow and Robert Roeder holds the Arnold and Mabel Beckman Professorship.

—Joshua Lederberg

Vincent P. Dole

Honorary degree

Today we honor one of our very special colleagues, Vincent Dole, an alumnus of our Rockefeller Hospital, who looked at the most mysterious of all biologic phenomena, how we behave, and began the translation of a hurtful, distressing aberration of behavior into chemical understanding. He came to The Rockefeller Institute for Medical Research in 1941 to work with Donald Van Slyke, truly one of the founding fathers of clinical chemistry. His first work here was on hypertension and on energy metabolism. He demonstrated conclusively the important role of free or unesterified fatty acids, made easily measurable in human plasma by techniques he devised.

In 1963, he turned his attention to a peculiarly difficult biologic mystery, one that surrounds us in New York City. It can be noted that about 2 million Americans, one quarter of them living right about us in the city are devoured by the daily need for heroin. As Dole noted when he received the Lasker award in November 1988, the prevalent problem of addiction is widely considered an example of human misbehavior or willful misconduct. But translating addictive behavior into the language of ethics or criminology has had little beneficial effect over the years; coercing and imprisonment have led to few victories in the so-called war on drugs.

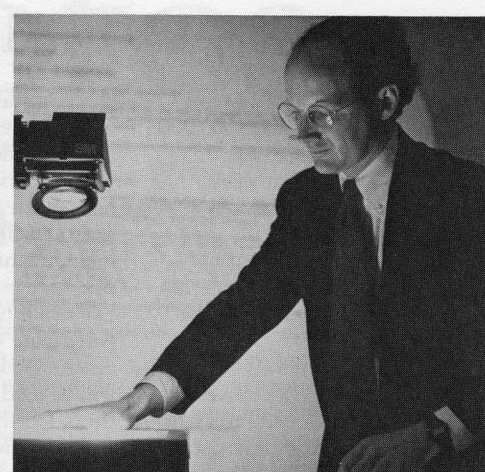
Dole and his collaborator, Marie Nyswander, considered this matter and then joined hands and hearts to make a novel chemical translation. They examined the hypothesis that heroin can lead to or uncover a defect in a specific ligand receptor system. They began their studies in our hospital, the only place where a scientific approach to this problem was possible on human subjects at that time. They found a chemical agent, methadone, which if given in adequate daily doses, can compensate for the defect that is characteristic of addictive behavior.

The corrective action of this drug, even though it may not be curative, has nonetheless rescued thousands of individuals from their bondage to heroin. Perhaps, most importantly, this work has given hope for the utility of scientific approaches to other behavioral disorders. Dole has demonstrated to us that there are dark corners of distressing human behavior that can be illuminated by the classical methods of chemical translation so characteristic of biological science.

—Jules Hirsch



A reception at the President's House honors degree recipients.



The Rockefeller University recently hosted a series of talks on science writing. *From left to right:* Natalie Angier, a writer at *The New York Times*; Deborah Barnes, editor of *The Journal of NIH Research*; and Joseph Carey, public information director, The Society for Neuroscience.

Experts on science writing advise, 'keep it simple'

by Susan Blum

Sooner or later, it happens to just about every scientist: A reporter calls to ask for an interview, or an editor writes to solicit a book or an article "for the non-specialist." Some researchers might regard this prospect with about as much pleasure as they reserve for a root canal, but a series of talks held recently at Rockefeller showed just how productive—and even enjoyable—such endeavors can be.

The four-part lecture program focused on how to communicate science clearly, accurately, and engagingly, both in interviews and in writing. The speakers were Abraham Pais, physics professor emeritus at Rockefeller; Natalie Angier, a science and medical writer at *The New York Times*; Deborah Barnes, editor of *The Journal of NIH Research*; Joseph Carey, public information director for The Society for Neuroscience; and Bruce McEwen, professor of neuroendocrinology at Rockefeller. Audience members included scientists and science writers.

Why bother?

McEwen—who often gives interviews—got right to the heart of the matter when he asked, "Why should scientists talk to reporters?" The reasons, he asserted, are both altruistic and self-serving.

On the altruistic side, he said, "We should probably consider it our duty to communicate with the public that supports our research." Scientists who communicate about their work in the press help educate young people and pique their interest in scientific careers.

Cooperating with the press serves scientists' own interests, as well, he said. For one thing, a well-informed public is more likely to favor continued support of scientific studies. Interviews with the press can also help scientists make their voices heard on

controversial issues such as animal research.

There can be other benefits in talking with science journalists, too. "Giving interviews can help you clarify your own thinking," McEwen said. "Boiling your work down to a few main ideas can really help you clear away the obfuscation that can occur when you're working on a number of different projects at the same time." But despite all these benefits, scientists are sometimes reluctant to give interviews because they fear a reporter will oversimplify their research, sensationalize it, or just plain get it wrong.

"It is true that science journalists make mistakes," the *Times*' Angier admitted. "I'm not going to deny that it sometimes happens. But scientists make mistakes, too, and we don't therefore assume that every time we read one of their papers it contains a mistake. Scientists may not realize that good journalists hate to make errors just as much as scientists do." Though acknowledging that scientists "run a risk" when they grant an interview, she said, "Ultimately, the person who suffers from an error is the journalist, not the scientist. The person whose byline is on the story is generally the one who ends up taking the heat."

Think and act positively

Angier said that, like any other human relationship, an interview can be colored by expectations. "When I feel that a scientist is talking to me with excitement, then the interview usually goes beautifully," she said. "But if I sense that the scientist thinks I'm going to screw up, it becomes an antagonistic encounter." Angier advised the scientists in the audience to "assume that the reporter is really pretty intelligent and likes the subject."

But as smart as reporters may be, they can't know everything. That's

why Joe Carey of the Society for Neurosciences reminded investigators that during an interview "the onus isn't just on the reporter; it's on the scientist, too."

Carey advised scientists to ask a reporter, "How much do you know about this subject? Have you covered it before?" Carey said that when he himself was a science reporter, he appreciated such an approach. "When I had the luxury of time to work on a story, I'd say, 'Listen, tell it to me in baby talk.' I'd never get it in real baby talk, but it would be a couple of levels below where I'd otherwise get it, and that helped a lot."

And what if the scientist him or herself is doing the writing? When presenting material to non-scientists (as might happen when writing lay-language abstracts of papers) scientists should focus on "the bottom line," Carey suggested. Background material should come last, not first, and the emphasis should be on what is new about the research. Carey also advised that any clinical implications of the research should be stressed. "The more you can relate the findings to human disease, the more interesting it will be to the public at large," he said.

Carey also advised that material for the lay public be written at a level a 14-year-old could understand. "This might seem extreme," he acknowledged, "but if you present things at that level, chances are good that you'll get the point across."

Simplicity is key

Simplicity is also required when writing for fellow scientists.

Barnes, whose *Journal of NIH Research* is read by investigators, reminded the audience that "when you're writing for scientists, there can be as much of a language barrier between scientific disciplines as there is when you write for the general public. Any time you

use jargon, you should explain it."

"Obviously," she added, "when you're writing for scientists you can explain the jargon much more quickly, and that allows you to go more in depth about the topic you're covering."

Barnes said that while editors will help shape a scientist-written piece, they won't rewrite it: "One of the things editors like about articles written by scientists is that they reflect the personality, interests, and perspectives of the scientists themselves."

Rockefeller Professor Emeritus Pais knows the appeal of such writing firsthand. He is the author of two highly-respected works, *Subtle is the Lord*, a biography of Albert Einstein, and *Neils Bohr's Times*, the first major biography of the 20th-century physicist. In his talk at Caspary, which opened the series, Pais summed up the challenge of writing about science for the lay public: "You don't want to talk down to your audience. You want so very much to say, 'Come, sit down with me. Listen to why this is so exciting and wonderful.'"

One way to entice the reader, he said, is to draw parallels and analogies. Another way is to portray scientists as human beings, rather than a breed apart.

"When I was a kid," he recalled, "I had this strange fantasy that a scientist gets up in the morning and suddenly the light goes on. Then, he has breakfast and his work is done. But this is a juvenile fantasy. We scientists are just ordinary people who make mistakes. Perhaps we are simply more persistent than others."

The consensus of the science writing seminar seemed to be that if scientists are persistent in explaining their work to colleagues and reporters, they can be as successful in that endeavor as they are in the research that attracts interest in their work in the first place.

New 12-story lab building opens its doors

The new lab building, a 12-story structure that will provide 100,000 square feet of lab space, was officially completed last week, announced President Torsten Wiesel and Executive Vice President and Chief Operating Officer Fred Bohen at the meeting of the university community last Friday.

"The new building will be a tremendous asset to the university in the years ahead," said President Torsten Wiesel. "It provides state-of-the-art research facilities and gives us the capacity to expand the ranks of our top-notch investigators."

Bohen said: "The new lab building is the result of seven to eight years of planning and development. George Candler, director of planning and construction, and his staff deserve great

credit for bringing the building in on schedule and more than \$4 million under budget."

Wiesel explained that the first floor of the new building will house central facilities for the university, including high-tech instrumentation such as electron microscopy. Lab heads have been invited to participate in the planning of these central facilities. The second floor will be used by new faculty. The third, fourth, fifth, and sixth floors will house researchers supported by the Howard Hughes Medical Institute. These investigators will move into their new labs throughout the summer and fall.

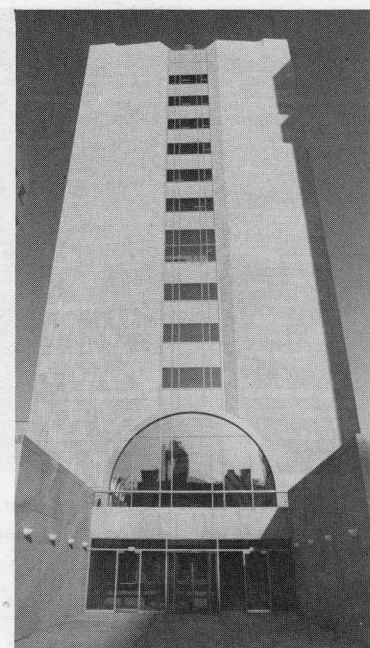
"The top floors are at the present time shell space," said Wiesel. "The intention right now is to develop two of those floors within the next three years. Other floors will be developed as the resources can be

allocated for special programs.

"With the move of a number of Hughes investigators, more space will become available in other buildings such as Smith and Bronx," he continued. "That space will be used for new faculty. As the university grows, our hope is that in time we will be able to fully utilize both the old space and the new space."

The new lab building, which rests on a platform over the Franklin Delano Roosevelt Drive, was designed by Abramovitz, Kingsland, Schiff Architects. The facade of the new building is made of Alabama limestone and granite, materials commonly used throughout campus.

The dedication of the new laboratory building is planned for Wed., Sept. 23 through Sat., Sept. 26.



The new lab building has been officially completed.

Potpourri

Tri-Institutional Noon Recital

Afternoon Ragas, a program of Indian classical music, will be featured at Tri-Institutional Noon Recital today (June 26) in Caspary Auditorium. Musicians Amit Chatterjee (sitar), Steve Gorn (bansuri flute), and Badal Roy (tabla) are leading musicians of Indian classical music and Indian-inspired jazz. The recital is co-sponsored by The India Club of Cornell University Medical College. *Note: the concert will start at 11:45 A.M. and end at 1:30 P.M.* Members of the audience may arrive or depart at any time during the performance.

Harpichordist Nadia Bohachewsky Sorée will perform July 10 in Caspary Auditorium. She will play works by J.S. Bach, Sweelinck, Purcell, Scarlatti, C.P.E. Bach, W.F. Bach, Byrd, Tomkins, and Balbastre.

Spraying

Due to uncertain weather conditions last weekend only the shrubs could be sprayed. The spraying of the trees has been rescheduled for tomorrow (June 27), starting at 6:00 A.M. and finishing by about noon. The rain date is Sat., July 11. The Grounds Department recommends that those on campus that day stay out of direct contact of the drift, close windows, turn off air conditioners, and keep pets inside. For more information, contact Jim Sullivan, x8001.

Seminars

As part of the Junior Faculty-Student Seminar Series, Nobuko Uchida from Stanford University will speak on "The Biology of Mouse Hematopoietic Stem Cells" Thurs., July 2, at 1:00 P.M., in

Tower 305. Manuela Martins-Green from Rockefeller University's Hanafusa lab will speak on "The 9E3 Gene Product, a Small Inducible Cytokine Implicated in Growth Regulation and Wound Healing," Tues., July 7, at 11:00 A.M., in Tower 301.

Russian Enzyme Conference

Professor James E. Manning was an invited lecturer at The International Conference on Modern Enzymology: Problems and Trends, held June 24 in St. Petersburg, Russia. The conference commemorated Alexander Braunstein, a discoverer of vitamin B6-containing proteins. Manning spoke on work in his lab that examines the chemical mechanism of vitamin B6 enzymes.

Award

Biomedical fellow Wendy Chung won an American Institute of Nutrition/Proctor & Gamble Student Research Award. She presented her winning paper—on messenger RNA for a hypothalamic neuropeptide that affects appetite in obese rats—at the April 6 AIN Meeting in Anaheim, CA. According to her advisor in the Hirsch lab Rudolph Leibel, the project was done last summer between two years of medical school at Cornell.

System 7

System 7 Tune-Up is now available from Computing Services. Tune-Up is a set of software enhancements that make Macintosh computers work better with System 7 (version 7.0 or 7.0.1). After installing System 7 Tune-Up, you will find:

- Memory is managed better,

resulting in fewer "not enough memory" messages;

- Printing is faster and more reliable;
 - There is more memory available for applications;
 - Problems with disappearing folders and files are prevented.
- (Most users have never experienced this and need not be concerned.)

To get a copy of this software, bring an unformatted, double density floppy disk to the consultant in the User Area. The disk with System 7 Tune-Up will be sent via campus mail.

Anti-virus programs

Upgrades to several virus-protection programs for personal computers are available from Computing Services.

For the Macintosh, there are two freeware programs, Disinfectant 2.8 and Gatekeeper 1.2.5. They both protect against a new virus called INIT 1984, which changes names and types of files and folders, as well as many older viruses. Disinfectant also protects against the virus CODE 252, which tells the user it is erasing files without doing so and causes disk corruption and other problems. The new versions of Gatekeeper and Disinfectant can be copied from the public MacIntosh in the Users Area, Smith Hall B7, or downloaded from the /mac+pc/mac software archives on r8 and rb, in the directory Public/VirusProtect.

For IBM-type PCs, there are updates to the SCAN programs (new version is number 91) and the F-PROT program, version 2.04. Both protect against many new PC viruses. SCAN is shareware—you must pay a \$25 registration fee after obtaining it. F-PROT is free for use on single computers, and RUCS has a site license to cover use on several

computers within a group. Diskettes with the new version of F-PROT can be obtained from the consultant in the Users Area. F-PROT and SCAN can be downloaded from the /mac+pc/pc archives on r8 and rb.

For further information, contact the consultant, x8940.

Corporate Challenge race

In the June 4 Corporate Challenge races, Rockefeller's men's team placed 25th out of 614 teams overall, and first in the nonprofit division. The university women's A team placed 14th overall out of 541 teams, and fourth in the division out of 79 teams. The women's B team placed 531st overall, and 78th in the division. Out of 431 co-ed teams overall, Rockefeller's A team placed 79th; B team, 117th; C team, 250th; D team, 315th; E team, 379th; and F team, 416th.

RU trustee P. Roy Vagelos, chairman, president, and chief executive officer of Merck & Co., also ran the 3.5-mile course.

Volunteers needed

The Recreational Therapy Department at The Rockefeller University Hospital seeks volunteers to take patients on outings and to teach arts and crafts. Some of the upcoming trips are to a Mets game and Summerstage concerts in Central Park. Volunteers with skills in painting, ceramics, photography, or gardening are especially needed, as are those who can come during weekends and evenings. Many of the patients are children.

The department also seeks donations of any type, especially unused darkroom supplies. For more information, contact Liz Gorman, x8474.