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## NEWS AND NOTES 1993, VOL.3, NO.16

The Rockefeller University

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# news & notes

January 22, 1993 Volume 3, Number 16

The Rockefeller University

## RU streamlines information and computing services

The university will centralize and streamline its information and computing operations, announced Chief Information Officer Francis "Frank" Lees this week.

"The goal is to offer faster and more cost-effective services so that scientists can get on with their science," said Lees. "We plan to accomplish this by upgrading the university's computer network, unifying the university's information and computing resource centers, and providing new computer consulting services."

Lees describes the initiatives in a memo sent to heads of labs and services Wednesday. The installation of a "campus network backbone," made of copper and optical fiber cables and associated electronic equipment, is one of the major initiatives outlined. This network,

now largely in place, will facilitate communication among computers on and off campus and will increase individual labs' access to shared resources.

"Today, no one lab can afford the kind of technology that produces perfect imaging, typesetting, slides, and design," Lees said. "Access to extensive bibliographic and sequencing databases and programming tools can be slow and expensive. Access to the most up-to-date information is available sooner and faster via network connections. With this new campus network, labs and departments will be able to share state-of-the-art technology and access some resources at high speed so that they pay less for on-line time."

Lees also plans to centralize the university's four information and computing centers—Computing Services, the Electronics Shop and Laboratory, the Media Resource Service Center, and Telecommunications—so that they offer more effective and efficient service.

Changes are taking place within the services as well. For example, the Media Resource Service Center is increasing its network access, broadening ways it can receive digital images and produce illustrations, and conducting cost comparisons with similar services in the New York area. Telecommunications is negotiating for better long-distance and toll rates and is educating the community on the new capabilities provided by the recently acquired



Chief Information Officer  
Francis "Frank" Lees

digital phone switch and campus wiring.

Finally, Lees hopes to improve and refine the computer consulting offered to labs and services. Through better use of existing resources, a new electronics technician/programmer and a new systems programmer will be hired.

Lees also hopes to offer new computer consulting agreements to laboratories. Today, labs can call in their questions to a consultant free of charge or hire a consultant by the hour. Lees proposes a long-term contractual agreement that would ensure regular maintenance and servicing of hardware and software, as well as periodic consulting on such topics as integration of research

See *Service centers*, page 2

## Renowned British scientist to give Lederberg Lecture

Sir Walter Bodmer, director-general of the Imperial Cancer Research Fund, will give the third annual Joshua Lederberg Distinguished Lecture in Molecular Genetics on Mon., Jan 25 at 3:45 P.M. in Caspary Auditorium. He will speak on "Molecular Genetics of Familial Polyposis and the Estimation of Human Mutation Rates."

Bodmer, current president of the Human Genome Organization and chairman of the Trustees of the Natural History Museum, has held positions at Cambridge University, Stanford University, and Oxford University. He is author of several hundred research papers and co-author of three books: *The Genetics of Human Populations*, *Our Future Inheritance: Choice or Chance?*, and *Genetics, Evolution and Man*. Bodmer, who has received numerous honors in both Britain and the United States, was elected a fellow of the Royal Society in 1974 and received a knighthood in 1986.

The annual Joshua Lederberg Distinguished Lecture in Molecular Genetics was endowed by the Raymond and Beverly Sackler Foundation in Joshua Lederberg's name. Lederberg, currently University Professor at Rockefeller, was president of the university from 1978 to 1990. He has held a variety of advisory positions to government throughout his career. He is now a member of the U.S. Defense Science Board, co-chair of the Carnegie Commission on Science, Technology and Government, and chair of the Congress' Technology Assessment Advisory Council.

A graduate of Columbia College and Yale University, Lederberg discovered a "sexual breeding" system whereby two bacteria form a connecting bridge through which one passes a chromosomal strand to the other. This discovery helped to make bacteria available for genetic research and, later, for biotechnology. His work earned Lederberg a Nobel Prize in Medicine in 1958, at the age of 33. Today, Lederberg studies the way in which DNA can vary in conformation, how this is influenced by the environment, and how DNA may in turn affect the localization of gene mutations.

## President holds office hours

President Torsten Wiesel has begun to hold office hours every Friday, from 2:15 to 3:15 P.M.

"Everyone—faculty and staff—should feel welcome to come see me in confidence with any concerns or issues they may have," said Wiesel. "I have put aside this hour for us to sit down and talk."

Anyone interested in taking advantage of the new office hours should call the President's Office, x8080, to make an appointment.

2 RU Hospital hosts nutrition interns

3 How humans reroute viral traffic

4 Chinese celebrate entry of year 4691

## Skating party celebrates freezing of rink



Owen Fetzer (left) and Matthieu Calandra, Children's School students, try out the new rink before an ice-skating party on Wednesday. The rink was built by volunteers last week.



## Nutrition interns learn their way around metabolic kitchen

Two weeks ago, Joanne Phillips and Danielle Vasconi had never worked in a research hospital's dietary service. Now they cheerfully point out the highlights of the metabolic kitchen at The Rockefeller University Hospital—the food, the formulas, and the special equipment.

Dietary interns from The New York Hospital-Cornell University Medical College, Phillips and Vasconi came to Rockefeller to participate in a rotation with the Hospital's Dietary Service.

"We give the interns time and attention, showing them how we design and develop diets and prepare food to meet the rigorous research requirements here," said Cynthia Seidman, director of Dietary Service. "In return, they offer us new insights and help us out on time-consuming projects."

Phillips and Vasconi have brought a fresh perspective to the department. They were particularly impressed by how different the Rockefeller Hospital's kitchen was from that of a clinical hospital.

"Everything in Rockefeller's kitchen is very precise," Vasconi said. "Here, the staff will do something again and again, just to make sure it is exactly right so that the researchers can get the data they need. In addition, all the supplies are ordered and dated, and the kitchen is immaculately clean."

Phillips added, "It is easy to get lost in a larger institution. Here, I feel that we are part of a team. I know everything we do counts."

Interns take part in the daily operation of the kitchen as well as the hospital as a whole. In the kitchen, they learn how to plan metabolic diets, make liquid formulas, and analyze the nutrient content of food. In the rest of the hospital, they attend rounds, review charts of current research patients, and learn about investigator protocols and patient admission.

The Dietary Service internship program draws about 15 students each year. They work at the Hospital from two to ten weeks, depending on the program. While the bulk of the interns come from local institutions such as The New York Hospital-Cornell University Medical College and New York University, some have also come from places as far afield as the University of California and Florida State University.

"I feel it is important for the dietetics profession that students are exposed to research," said Seidman. "Young people should know that this is a field that they could pursue as a career."

Both Phillips and Vasconi leave Rockefeller enthusiastic about their experience. "I'd stay for another eight months, to the end of my program, if I could," said Phillips.



Cynthia Seidman (center) shows nutrition interns Joanne Phillips (right) and Danielle Vasconi procedures used in The Rockefeller University Hospital's metabolic kitchen.

## Computer workshops resume in February

Computing Services workshops will resume in February and continue on a year-round basis.

All workshops are free, however space is limited and registration is required. Individuals interested in participating in a workshop should leave a voice-mail message at x8935 with their name, phone number, and the workshops they are interested in. A member of Computing Services will call back with the dates of possible classes.

## RU centralizes four service centers

(continued from page 1)

equipment with computers, and fine-tuning of software and network connections.

"This arrangement would be especially economical for labs that foresee frequent changes in their computing needs and want to cover the cost ahead of time," said Lees. "It's like an insurance plan."

Since his arrival last fall, Lees has worked on establishing a close working relationship with the heads of laboratories and departments. "I try to understand their work and then inquire about their computing, media, and telecommunications needs," he said.

"Most of the initiatives announced this week come in response to the needs and wishes of the scientists."

Lees, in consultation with a faculty advisory committee appointed by President Torsten Wiesel and Executive Vice President and Chief Operating Officer Fred Bohen, will continue to review goals, policies, and protocols for computing and information services.

A schedule of workshops in February and March will be posted in the classroom, Smith Hall A21, and announced in *News&Notes*.

They include:

### Macintosh workshops:

Introduction to the Macintosh; Introduction to Microsoft Word 5.0, parts I, II, and III;

### Macintosh and PC workshops:

Introduction to Excel 4.0, parts I and II; Kermit;

### PC workshops:

Introduction to Windows 3.1; Introduction to Microsoft Word for Windows 2.0, parts I, II, and III; Wordperfect 5.1 parts I, II, and III;

### UNIX workshops:

UNIX for Sequencers parts I and II; Introduction to Sequencing, parts I and II; Electronic Mail Only; Introduction to UNIX and Mail; Introduction to the Vi Editor.

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## Profiles

*News&Notes* is starting an occasional series, "Profiles," featuring a photo and some background about a member of the university community. Here, Pierluigi Pompei, guest investigator in the McEwen lab, kicks off the new series.

### Pierluigi Pompei

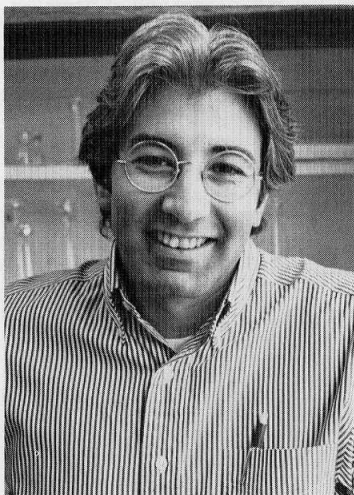
**Born:** Rome, Italy.

**Age:** 32 years.

**Research interest:** Neuropeptides called tachykinins that effect body fluid regulation in humans and rats. Tachykinins may be a possible cofactor in hypertensive disease.

**Goals during his three-year stay in the United States:** to learn molecular biology techniques, to "live like an American."

**Principal hobby:** athletics of all sorts. Since he came to Rockefeller, his activities have included playing squash on the



Pierluigi Pompei, guest investigator in the McEwen lab, kicks off the new "Profiles" series.

Rockefeller courts, working out in the university gym, rock climbing in the Catskills, and roller blading in Central Park.





# Viral traffic report: humans create new avenues for microbes

By Doron Weber

It is now estimated that HIV, the virus which causes AIDS and which appeared for the first time a little over a decade ago, will have infected 40 to 100 million people worldwide within the next 10 years. But the emergence of AIDS may be only part of a larger pattern in which previously unknown or isolated viruses cause major outbreaks of disease.

"There are many more viruses out there that have the potential to become the AIDS of the future," says Stephen Morse, a virologist who is assistant professor in Rockefeller University's Laboratory Animal Research Center. "The good news is that, although we cannot yet predict specific disease outbreaks, we now understand many of the factors leading to them."

Morse spoke last month at the National Association of Science Writers' Christmas party, held in the Abby Aldrich Rockefeller Hall. He emphasized that most people think a new disease like AIDS did not previously exist in nature and "suddenly appeared out of nowhere for the first time, like an act of God." Yet the overwhelming majority of emerging viruses are not new, but existing viruses that reach new hosts, Morse says.

HIV, for example, is now known to be a lentivirus, a subfamily of retroviruses that cause disease in a number of other species, including sheep and monkeys. "HIV was initially such a mystery because the human virus was discovered before the other lentiviruses were recognized," says Morse. Primate lentiviruses such as simian or monkey immunodeficiency viruses (SIV) are now believed to be the origin for HIV-2 and possibly for HIV-1 as well. "If we had known about SIV, we might have been quicker to realize that lentiviruses can cause immunodeficiency. We might have identified HIV sooner and been able to start developing some preventive measures earlier."

## Humans disturb balance

Morse calls the movements of viruses to new species or new individuals "viral traffic." Most emerging viruses have existed for ages in animals—primarily insects, rodents and birds. When humans cross their path, the natural equilibrium may be upset. By altering the environment through agriculture, deforestation, urban development, migration, or commerce, humans unwittingly disturb long-standing relationships between microbes and



Virologist Stephen Morse speaks on viruses at a gathering of the National Association of Science Writers last month.

their hosts. Says Morse, "It isn't the dastardly and diabolical nature of viral evolution that's really the problem; in many cases it's us. In effect, we have rerouted viral traffic, thereby creating new avenues for microbes to invade human populations or to spread beyond their traditional range."

For example, the Hantaan virus, the cause of Korean hemorrhagic fever known in Asia for centuries, is a natural infection of the striped field mouse which flourishes in rice fields. The disease, which first came to the West's attention when U.S. and U.N. peacekeeping troops in Korea succumbed to the fever, is on the increase in Asia because more land is being converted to rice fields, giving the mouse more space to run through. Similarly, the unrelated Junin virus, the cause of Argentine hemorrhagic fever, is a natural disease of rodents. The incidence of hemorrhagic fever has increased in Argentina as grassland was converted for maize cultivation.

Insect-transmitted viruses—for example, those that cause such notorious diseases as dengue fever and yellow fever—are often stimulated by expansion of open water supplies, which provide a breeding ground for insects. "That's a pretty common recipe: more water equals more mosquitoes, which equals more mosquito-borne diseases," explains Morse. For example, outbreaks of Rift valley fever in Africa have been associated with dam building or heavy rainfall. In Panama, the creation of Lake Bayano as part of a hydroelectric project caused an increase in Venezuelan equine encephalomyelitis, another mosquito-borne viral disease.

## Pandemic influenza strikes

One of the most startling examples of how humans can affect the spread of viruses is pandemic influenza. The 1918-19 influenza pandemic, perhaps the greatest natural disaster in history, killed 20 to

25 million people. The breeding ground for pandemic influenza virus appears to be integrated pig-duck agriculture, a highly efficient food-production system practiced in China for centuries. This agricultural practice puts pigs, ducks, and humans in close contact and provides a natural laboratory for making new influenza recombinants.

The flu virus has a segmented genome, with eight pieces. If two influenza viruses simultaneously infect a cell, the progeny virus particles may contain various combinations of genes from each of the original viruses. This process is called genetic reassortment.

Although the more common annual or biannual flu epidemics may be caused by viral evolution, in which a virus circulates around the world picking up chance mutations, influenza viruses that cause pandemics are quite different. "In pandemic influenza, a process of genetic reassortment introduces a new gene to the human population from a natural source," says Morse. "This results in a radically different influenza virus which our immune system has never seen."

The source of the new genes is usually ducks or other waterfowl, which are natural hosts for a wide variety of influenza strains. Most of these strains cannot infect people but some infect pigs. Pigs then act as a "mixing vessel" for generating new pandemic influenza strains through reassortment. Though rare, these strains may have the capacity to infect humans who live in close proximity to these animals.

No one knows exactly why the pandemic of 1918-19 was so severe or why, despite a few pandemics since, none has been as devastating. But, warns Morse, "Everyone believes that a pandemic of this sort can recur and that's something we had better be prepared for."

## A call for greater vigilance

Inevitably, viral traffic is enhanced by human traffic. The

creation of highways and human migration to cities, especially in tropical areas, can introduce once-remote viruses to a larger population. As people move from the country into cities and can't find housing, they set up shanties on the edge of town. Lacking piped water, they collect their water in containers which then serve as a breeding ground for mosquitoes. They can also bring new diseases, such as AIDS, with them.

On a global scale, similar opportunities are offered by rapid air travel. The U.S. Public Health Service annually reports about 100 cases of suspected dengue fever, brought in by travelers returning from other countries. In 1989, a mechanical engineer living in Illinois went to a family funeral in Africa and unknowingly contracted Lassa fever, the natural infection of a common African rat. Fortunately, he did not infect anyone in the United States.

Morse emphasizes that our new understanding of how viruses migrate from one species or geographical area to another carries with it a concomitant responsibility: "We have to have global surveillance systems to define emerging diseases anywhere in the world when they're still in the early stages as well as a rapid response system to deal with potential threats. In addition, we must continue the public health efforts that controlled infectious diseases in the past."

Morse is not alone in calling for greater vigilance and cooperation in tracking microbial threats. In October, he was part of a committee of the Institute of Medicine, co-chaired by Rockefeller professor and former president Joshua Lederberg—an early activist in this field. The committee issued a report warning that existing public health systems are inadequate to detect and contain threats from new diseases like AIDS and the re-emergence of old ones like tuberculosis. It called for strengthened disease surveillance in the United States, more research, enhanced data bases, better training, and better coordination among U.S. government agencies to fight a host of emerging infections.

Says Morse, "The viruses of the future are already here. They are in the world. Since we are the major engineers of the viral traffic that brings these viruses out and carries them to us, we have to be more conscious of the unanticipated effects of changes we make to the environment. We have to become better traffic engineers."



# Chinese expatriates at RU bow to tradition as they usher in new year

Tomorrow (Jan. 23) the year 4691 in the Chinese lunar calendar, will begin. Many members of The Rockefeller University community from China and neighboring countries will celebrate the New Year with family and friends, or at least use the occasion to reminisce about cultural rituals and traditions.

"I didn't bring up my children to celebrate the New Year the way I once did because it lost some of its meaning when I came to the west in the 1940s," said Hao Wang, professor emeritus who grew up in Shantung, China. "But when I was young, New Year's rituals were very important. These rituals are still very meaningful in rural China, where ensuring good luck in the coming year is seen as vital."

One of these rituals is the hanging of the *dui lien*, a decoration draped over the front door with good wishes for the New Year. "Traditionally, *dui lien* are composed and handwritten by the father of the household on three panels of crimson paper that dress the front door throughout the festivities," said Wang. "Sometimes the messages are very creative and



Suey Lee, laboratory helper in the Manning lab, and Mie-Lin "Linda" Ng, laboratory helper in the Merrifield lab, demonstrate the kowtow ritual performed on the Chinese New Year.

poetic. Mostly, though, they wish for good health, prosperity, and happiness."

Ruibao Ren, a postdoctoral fellow in the Baltimore lab who grew up in a rural town north of Beijing, China, recalls kowtowing to his parents on New Year's day. In this ritual, all children—young and old—are expected to bow and pay their respects to their ancestors,

parents, and older siblings. In return, the parents and siblings each hand over a pale crimson envelope containing money, usually just enough to buy candy or firecrackers. "I used to be very intimidated by this ritual," said Ren, "but, since I was the youngest in my family, I always ended up with the most money!"

This year, Ren, who has been in

the United States for five and a half years, will be away at a conference for the New Year. "Usually, I join a group of Chinese students and their relatives," he said. "Together, we organize a very elaborate meal, sing songs, and dance the whole night. I'm sorry to miss it this year."

The year 4691 is the Year of the Chicken, one of the last in the Chinese lunar calendar. "After the chicken comes the dog and then the pig," said Suey Lee, a laboratory helper in the Manning lab, who comes from Hong Kong. "The pig is the last animal in the cycle."

Lee warns that celebrants in New York City, like those all over the world, will usher in the Chinese New Year by setting off fireworks. "The noise is supposed to scare away bad luck," said Lee, who hopes to visit New York's Chinatown tomorrow for the festivities. "All of the children will be in the street popping their firecrackers. The streets will be crimson with firecracker wrappers, and lions and dragons will parade the streets. It's a very festive occasion for everyone."

## Potpourri

### Tri-Institutional Noon Recital

Pianist Seung-Un Ha, winner of the Young Musicians Foundation National Debut Competition and the Bach International Competition, will play works by Schumann and Chopin today (Jan. 22) at the Tri-Institutional Noon Recital. Admission to the concert, to be held in Caspary Auditorium, is free and open to the Tri-Institutional community.

### Sunday film

*Paisan* (1946), directed by Roberto Rossellini, depicts the lives of six individuals struggling for liberty against tyranny, poverty, and war. The film—a landmark of Italian Neorealism—will be shown in Caspary Auditorium at 7:30 P.M. on Sun., Jan. 24. Admission is free. All are welcome.

### Wednesday evening concert

Violinist Alyssa Park and pianist Rohan De Silva will play works by Mozart, Prokofiev, and Saint-Saëns in the Wednesday evening concert series at 8:00 P.M. on Jan. 27, in Caspary Auditorium. Admission to one concert in the series is \$17 per person; \$7 for students or postdocs of the Tri-Institutional community. For information or reservations,

call Cathy Rogers, x8971.

### Moves

- The Nussenzweig lab has moved to the fourth floor of the new Rockefeller Research Building.
- The Sakmar lab has moved to the fifth floor of the Rockefeller Research Building.
- The Blobel lab is in the process of moving to the fifth floor of the Rockefeller Research Building. Other Howard Hughes Medical Institute (HHMI) investigators will continue to move into the new building in the coming months.
- The HHMI administrative office will move to Gasser Hall 212 in February.
- The Department of Planning and Construction has moved to the third floor of Gasser Hall.
- The Simon lab, the Gadsby lab, and some members of the Wiesel lab are planning to move to the third floor of Bronk.

### Appointments

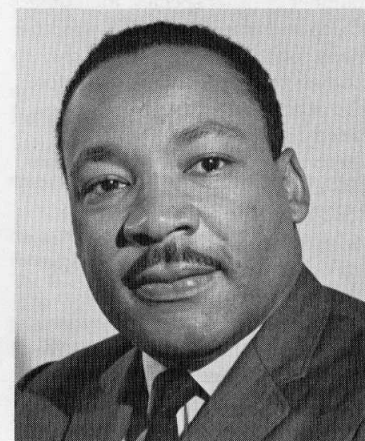
Adjunct faculty: Paul Cameron, Cohn-Steinman lab;  
Visiting professor: Agnes Figueiredo, Tomasz lab;  
Research associate: Gang Lu, King lab;  
Postdoctoral associate: Lih-Shen

Chin, Greengard lab; Daniel Lyman, M. Young lab;  
Postdoctoral fellow: Teresa K. Neil, Kappas lab.

### Departures

Adjunct faculty: Robert G. Allen, Carter lab; David Clayton, Nottebohm lab; Andrew Drexler, Chait lab; Susan Fried, Hirsch lab; Spyridon Georgatos, Blobel lab; Belur Manjula and Lee Wetzler, Gotschlich lab; Scott Moroff, Hayre service; Daniel W. Rosenberg, Kappas lab; Paul E. Young, Cowburn lab;  
Visiting professor: Nicholas Gillham, Luck lab;  
Senior research associates: Fred H. Pruslin, Allfrey lab; Kang Tsou, Greengard lab;  
Research associates: Raul Andino, Baltimore lab; Kaare Christian, Wiesel lab; Robin Cooper, G. Cross lab;  
Postdoctoral associates: Eizo Miyashita, Asanuma lab; Nalin Pant and Carlos B. Rios, Cowburn lab; Ishwar Singh, Pfaff lab;  
Postdoctoral fellows: Victoria Corbin, M. Young lab; Philippe Cottagnoud, Tomasz lab; Caterina Fognani, Darnell lab; Li Mou Zheng, J. Young lab;  
Guest investigators: Roland Boni

and Rachel Huch Boni, Kappas lab; Andrea Scaloni, Manning lab; Cornelia Humborg, Cohn-Steinman lab.



The university was closed Monday in honor of Martin Luther King, Jr. Day. The Harlem Spiritual Ensemble, a group which drew a crowd at Tri-Institutional Noon Recital when it played in honor of King earlier this month, will perform again at the Trinity Lutheran Church, 164-68 W. 100 St., at 7:00 P.M. on Sat., Jan. 23. For more information call 234-6294.