

# Cornell CHRONICLE

Volume 19 Number 37 July 7, 1988

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campus Macs

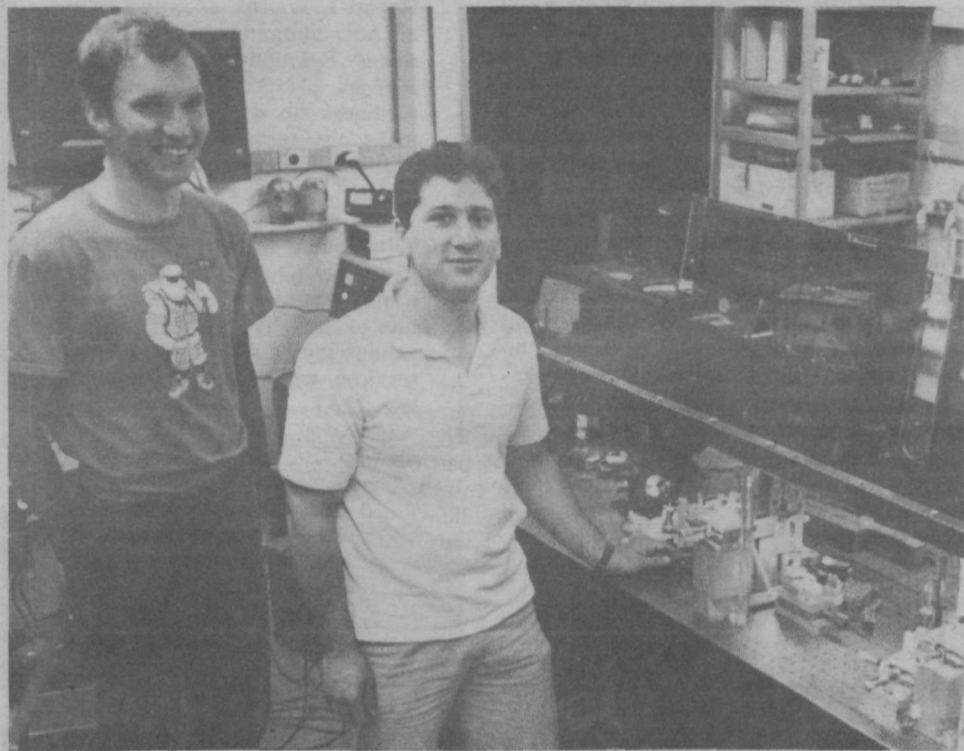


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Jill Peltzman

Walt Bosenberg, left, and Daniel Edelstein with the ultraviolet pulsed laser system they helped develop with Professor C.L. Tang and fellow graduate students Elliot Wachman and Kevin Cheng.

## Team generates precise ultraviolet laser light pulses

Cornell scientists have generated precise pulses of ultraviolet laser light less than one-tenth of a trillionth second long.

The development, which will allow researchers to probe molecules and semiconductors using a new range of wavelengths of laser light, was reported in the June 27 issue of *Applied Physics Letters* by applied physics graduate students Daniel Edelstein, Elliot Wachman, Kevin Cheng and Walt Bosenberg, and electrical engineering Professor C.L. Tang.

"Femtosecond" laser pulses — those from  $10^{-15}$  to  $10^{-13}$  seconds long — have become important tools for studying extremely-short-duration events such as chemical reactions. By directing femto-second pulses at reacting chemicals, researchers can capture information about the short-lived molecular intermediates of reac-

tions. Femtosecond lasers also are important for studying the dynamics and the ultimate limits of high-speed semiconductor electronic and optical devices.

Until now, almost all femtosecond spectroscopy had been done at infrared or visible wavelengths. Ultraviolet laser pulses with a high enough repetition rate and power had not been produced.

The ultraviolet pulses produced by Tang and his colleagues, with wavelengths in the 315-nanometer range, were as short as 43 femtoseconds at a repetition rate of 100 million per second and powers up to 20 milliwatts. According to Tang, these characteristics make the pulses suitable for a wide range of spectroscopic studies. A nanometer is one billionth of a meter.

"With an ultraviolet femtosecond-pulse  
*Continued on page 7*

## Nobel Laureate Soyinka will join Cornell faculty

Wole Soyinka, the Nigerian poet and playwright who won the Nobel Prize for literature in 1986, will join Cornell's faculty this fall as the Goldwin Smith Professor of Africana Studies and Theatre Arts.

Soyinka, whose appointment was expected to be confirmed yesterday by the executive committee of Cornell's board of trustees, will teach undergraduates and graduate students at the Africana Studies and Research Center and the new Center for the Performing Arts, where he is expected to direct several of his own plays.

His first course at the Africana Center — "African Literature — Theory and Practice" — will be team-taught with Henry Louis Gates Jr., a friend and former student of Soyinka and the W.E.B. DuBois Professor of Literature.

Soyinka will join the 12 faculty members at the center who teach the culture, literature, history and sociology of Africa, the Caribbean and African-descended communities in the United States and elsewhere.

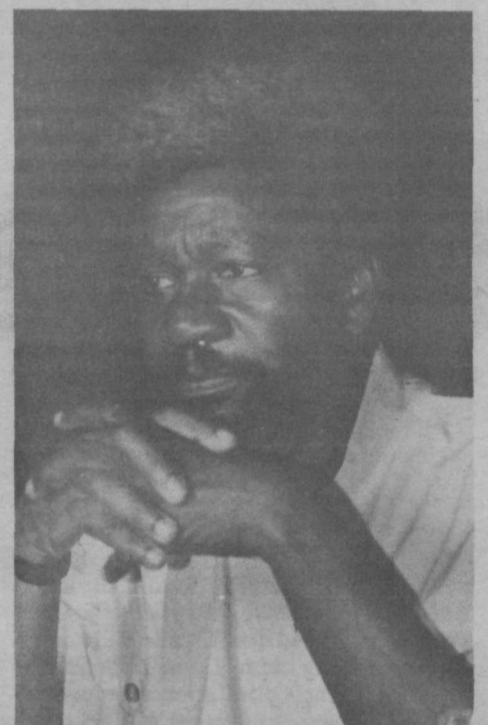
"No other black writer has managed consistently to speak to the human condition in general by delving into the African human being's condition in particular," said Gates, who is a scholar of African and African-American literature. "Long after particular issues of Africa today are footnotes in history, people will be studying the works of Wole Soyinka," he added.

Robert L. Harris Jr., director of the Africana Center, called the appointment "a real coup for Cornell," noting that the Nobel Prize had "added extraordinary luster to Soyinka's reputation as an artist and humanist."

"That he's willing to have a formal relationship with an institution in the United States — and it's his primary and perhaps only academic affiliation in the world — has generated great excitement at Cornell."

Harris said Soyinka's choice was influenced by the fact that he and Cornell had an established relationship (in the fall of 1985, he was a visiting fellow of the Society for the Humanities) predating the great renown that came with the Nobel Prize.

Earlier, he had served as chairman of the theater department at the University of Ibadan in Nigeria and as a fellow at Churchill



Charles Harrington

Wole Soyinka

College, Cambridge, where Gates was a graduate student in the early 1970s.

Soyinka, 55, was imprisoned for 22 months in Nigeria after making a public appeal in 1967 for a cease-fire between the central government and Biafran rebels. Some of his most acclaimed poetry grew out of the prison experience. His Nobel Prize-winning citation said his writing, all in English, presented "the drama of existence in a wide cultural perspective and with poetical overtones."

Provost Robert Barker said, "We are most gratified, and genuinely honored, that a poet and playwright of Professor Soyinka's distinction is coming to teach at Cornell. His talent and vision will help ignite intellectual excitement and discovery not only for students in Africana Studies and Theatre Arts but for virtually everyone concerned with humanities at Cornell."

— Sam Segal

## McCarty to direct Biotechnology Program

Richard E. McCarty, a specialist in the biochemistry of photosynthesis and member of the Cornell faculty since 1966, has been named director of the Cornell Biotechnology Program.

McCarty, a professor of biochemistry, molecular and cell biology, takes the place of the Biotechnology Program's founding director, Gordon G. Hammes, who has left to become vice chancellor for academic affairs at the University of California at Santa Barbara. The McCarty appointment, effective July 1, is subject to approval by the Cornell board of trustees.

"Dick McCarty is ideally qualified for this appointment, both in his scientific expertise and in his personal style," Provost Robert Barker said in announcing the appointment.

"He combines outstanding academic qualifications with a thoughtful and creative administrative skill. He was an outstanding

chairman of the Section of Biochemistry, Molecular and Cell Biology, and has the respect and trust of his faculty colleagues and the deans.

"Gordon Hammes does everything well, and his service as director of the Biotechnology Program is no exception," Barker continued. "He was the right person to serve as its first director, and he leaves the program with traditions of excellence and commitment that will stand it in good stead. We owe him a great deal for his imaginative leadership."

"Gordon was not only a superb director, but also a valued colleague," McCarty said. "We will miss him."

The Cornell Biotechnology Program was established in 1983 as a university-based basic research-and-development collaboration with government and industry. It now includes three components:

- The New York State Center for Ad-

vanced Technology in Biotechnology (Agriculture), which fosters research and application for economic development in agriculture, food and chemical production.

- The Biotechnology Institute, a university-industry program of basic research and information transfer in molecular genetics, cell biology and cell production with Eastman Kodak Co., General Foods Corp. and Rhone-Poulenc Ag Company.

- The U.S. Army Center for Excellence in Biotechnology at Cornell, which conducts basic research in the areas of protein and enzyme structure and function, and of animal cell surface receptors.

Besides its direct funding of more than \$3 million a year to faculty-initiated research projects, the Biotechnology Program provides central research facilities and other support to more than \$20 million in biotechnology-related studies conducted at the

*Continued on page 2*



Media Services

Richard E. McCarty



## Notables

Harold A. Scheraga, the George W. and Grace L. Todd Professor of Chemistry, received an honorary doctor of science degree from the University of Rochester during commencement exercises May 22.

The citation states that "Scheraga has been described by his peers as the leading protein physical chemist in the world. Over the past 40 years, studies that he and his colleagues have carried out have revolutionized science's understanding of the structure of proteins and the relationship between that structure and their chemical composition. . . ."

Scheraga is an elected member of the National Academy of Sciences and the American Academy of Arts and Sciences. He has received numerous medals and prizes, including the highest honors awarded by the American Chemical Society. He was chairman of the Department of Chemistry from 1960 to 1967.

## Cornell Plantations will play host to garden conference

A tent in the F.R. Newman Arboretum will serve as the conference center for the 1988 northeast regional meeting of the American Association of Botanical Gardens and Arboreta on July 15 and 16.

The meeting, which will focus on policy and practical issues facing gardens and arboreta whose mission is teaching, research and public services, will use Cornell's botanical collections as a resource for the workshops.

About 75 professionals from gardens in the Northeast are expected. "Designing for the Public or Designing for Education — Are They the Same?" will be one of the topics discussed.

Speakers will include representatives of the Arnold Arboretum (Boston), Brooklyn Botanical Gardens, Morris Arboretum (Philadelphia) and Smith College Botanical Gardens, along with Cornell Plantations staff and Cornell plant science professionals.

Julie Shattuck, administrator of Plantations' elementary science education program, Project Learning About Plants (LEAP), will lead a forum on educational outreach.

Representatives from the Brooklyn Botanical Gardens' Greenhouse Project and the Arnold Arboretum's Curriculum Development Project will compare their differing approaches to garden-based science education for school children.

Interested plant science professionals are encouraged to contact Raylene Gardner, educational program coordinator for Plantations, at 255-2407 for more information.

# Steps outlined to combat virus infecting Macs here

An illicit computer program that destroys files on Apple Macintosh computers has infiltrated Cornell.

The program, a so-called "computer virus," can begin causing a Mac computer to crash, possibly destroying information on disks in the computer, anywhere from two to seven days after it "infects" a Mac, according to Russ Vaught, director of administrative computing with Cornell Computer Services.

To determine if their computers may have been infected, Mac users should open their system folders. If the Scrapbook file's drawing appears as a sheet of paper, rather than as a drawing of a Mac, the computer may be infected, Vaught said. The icon for Notepad behaves similarly.

Cornell Computer Services has sent a disk that contains two anti-virus programs to all deans, directors and department heads, Vaught said. By following the instructions that accompany the disk, Mac users can determine whether their computer has been infected by the virus, called Scores, and remove the virus. A second program on the disk will help prevent infection by computer viruses in the future.

Mac users affiliated with Cornell can copy these two programs to their own disks at the Software Lending Library, Room 123, Computing and Communications Center on Garden Avenue. Other Mac users should contact Baka Industries or Chemung

Electronics, the local Apple dealers.

The virus is carried by program disks only, not by data disks. Therefore, Mac users are encouraged to not borrow program disks from other users until the virus is eradicated, Vaught said. It may be possible for the virus to be picked up by receiving an infected software program via a computer network, Vaught cautioned.

An estimated 5,000 Macs are used by Cornell faculty, staff and students.

"Any shrink-wrapped commercial software is not likely to be infected, but may become infected following use on an infected machine," Vaught added. "Only Macintosh computers are infected; it will not infect other computers."

Scores has appeared at universities and other institutions around the country, Vaught explained. It is believed that the virus was written by a disgruntled employee of Electronic Data Systems. The virus apparently was intended to destroy specific Mac applications in EDS software, but it will destroy files on any program or data disk, according to Vaught.

The virus was detected here in a contaminated computerized grading program bearing the date May 18, 1988. As of last Friday, July 1, the virus had infected about a dozen computers here. There were no reports of significant data losses and no student grades had been affected, Vaught said.

—Mark Eyerly

## Cooperation pledged for funding study

Cornell has offered to cooperate with a Tompkins County committee reviewing fiscal relations between universities and their communities.

James A. Mason, chairman of the County Board of Representatives, formed a committee on June 28 to review a Cornell research study on how 16 universities and their municipalities shared the costs of various services.

The arrangements were so varied that no pattern could be found.

In a letter dated June 30 and addressed to County Representative Robert I. Watros, chairman of the ad hoc committee, Cornell Community Relations Director David I. Stewart pledged the university's readiness "to work with you" and make the researchers themselves available for assistance.

He also repeated the university's position that such a review should not limit itself to the Cornell study or to Cornell. It should examine the general question of how all tax-exempt organizations should share the funding of services with host municipalities, he said.

# BTI molecular biology unit names Howell first director

Stephen H. Howell, an internationally known molecular biologist, joined the Boyce Thompson Institute for Plant Research on July 1 to direct its new program in molecular biology as the Boyce Schulze Downey Scientist.

Howell, who was a professor of biology at the University of California at San Diego, is the first person to hold the new position, established in late 1986 with contributions of \$1 million from anonymous donors. The position is named in honor of the granddaughter of Col. William Boyce Thompson, the founder of the institute.

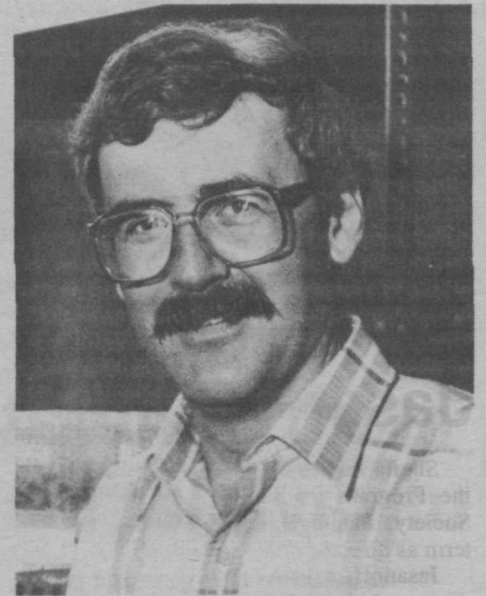
BTI President Ralph W.F. Hardy said the new program in molecular biology will become a major activity at the institute and is expected to have considerable interaction with all other research programs embracing plant protection, plant growth and development, plant use and environmental biology.

Howell is "a world leader in plant molecular biology with an extensive series of scientific successes which have built for

him a highly respected international reputation in the scientific community," Hardy said. "His recent work on transformation of plants with firefly luciferase [enzyme] provided a major new addition to the plant molecular biologist's tool kit. We expect much of the exciting advances in plant biology to occur at the interface between molecular and traditional biologists."

A native of Davenport, Iowa, Howell received a bachelor of arts degree from Grinnell College in 1963 and a Ph.D. from The Johns Hopkins University in 1967. He then joined the University of California at San Diego as a postdoctoral fellow, where he was appointed an assistant professor of biology in 1971 and was promoted to an associate professor in 1976 and a professor in 1982.

In 1976, he was awarded a John Simon Guggenheim Memorial Foundation Fellowship and spent a year as a visiting scientist at the John Innes Institute in Norwich, England. During the 1983-1984 academic year,



Stephen H. Howell

he was a visiting scientist at the Division of Plant Industry of the Commonwealth Scientific and Industrial Research Organization in Canberra, Australia.

—Yong H. Kim

## Cornell Chronicle

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It is the policy of Cornell University to support actively equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, age, or handicap. The university is committed to the maintenance of affirmative action programs that will assure the continuation of such equality of opportunity.

## Building trades extend contract for 3 more years

The university and its 125 building-trades employees have concluded a three-year agreement, according to E. Peter Tufford, manager of employee relations.

He said members of the Tompkins Cortland Building Trades Council, which represents Cornell carpenters, plumbers, electricians and painters, voted June 30 to endorse an agreement negotiated earlier.

Although negotiations were technically concerned only with reopening wage levels for the last year of a three-year contract, Tufford said the talks went so well that both parties agreed to keep the full contract — not just newly negotiated wages — in effect until June 30, 1991. Tufford said details would not be released but that the settlement was within the same range of salary increases as for all other employee groups.

About 1,100 of Cornell's 6,500 non-academic employees are represented by unions. The largest group, almost 900 service and maintenance employees represented by the United Auto Workers, agreed to a four-year pact well before the June 30 contract deadline; the 34 water-plant workers agreed to a three-year contract in March; and the contract for 58 security officers is in force until November.

## Obituary

### Paul J. VanDemark

Microbiologist Paul J. VanDemark, a member of the faculty from 1950 until his retirement in March, died June 27 at Tompkins Community Hospital. He was 65.

In addition to his research, VanDemark taught introductory microbiology for 38 years and in 1987 received the Carski Foundation Distinguished Teaching Award from the American Society of Microbiology.

He was co-author of an internationally recognized introductory laboratory manual in microbiology and co-author of a textbook for students, "The Microbes, an Introduction to Their Nature and Importance."

During his career here, VanDemark developed a nationally recognized research program on the physiology and metabolism of the bacteria known as streptococci.

He earned three degrees from Cornell: a B.A. in bacteriology in 1947 and a master's in '48 and a Ph.D. in '50 in microbiology.

He began his career as a member of the Department of Dairy Industry, which later became the Department of Food Science, and became a member of the Department of Microbiology when it was formed in 1977.

Survivors include his wife, Eileen, of Trumansburg; five sons; eight grandchildren and a brother.

### McCarty continued from page 1

Biotechnology Building on the central campus.

McCarty earned an A.B. degree in 1960 and Ph.D. in 1964, both in biochemistry from The Johns Hopkins University, served as a postdoctoral fellow of the Public Health Research Institute of the City of New York, and joined the Cornell faculty as an assistant professor of biochemistry in 1966. He was named professor of biochemistry in 1977 and served as chairman of the Section of Biochemistry, Molecular and Cell Biology from 1980 to 1985.

In 1972-73, McCarty was a visiting associate professor at Scripps Institute of Oceanography, and in 1979, he was a visiting scientist at Brookhaven National Laboratory. He is an editorial board member of The Journal of Biological Chemistry and was a member of the Metabolic Biology Panel of the National Science Foundation.

McCarty's current research is in bioenergetics of plants, centering on the function of chloroplast ATP synthase, an enzyme that synthesizes the energy-converting substance adenosine triphosphate.

He is the author of more than 100 publications on the subject of plant biochemistry and is the co-author, with D.C. Wharton, of the textbook "Experiments and Methods in Biochemistry."

—Roger Segelken



# Provost to tell trustees of budgetary constraints

Holding more jobs vacant, canceling faculty searches, cutting purchases and considering layoffs are some consequences Cornell faces from the continuing grim state-budget situation, Provost Robert Barker was planning to tell the board of trustees' executive committee yesterday.

At a meeting being held in New York City as the Cornell Chronicle was being printed, Barker was scheduled to bring the trustees up to date on some previously announced cuts and to add some details.

In other matters, the committee was scheduled to:

- Confirm the appointment of Francille M. Firebaugh, now vice provost for international affairs at the Ohio State University, to be new dean of the College of Human Ecology. The appointment, subject to ap-

proval by the trustees of the State University of New York, will take effect Oct. 1.

- Hear about the faculty's approval of a plan to increase minority representation by 40 percent over the next five years.

- Receive an annual legal report from University Counsel Walter J. Relihan Jr.

Barker had announced earlier that some 45 positions would have to be held vacant because planned state allocations fell below Cornell's needs. But due to further cuts required by Governor Mario Cuomo's projection of a \$900 million revenue shortfall in the fiscal year that began April 1, that figure has been raised in recent weeks to 90 positions, Barker was to tell the trustees.

The state supplies about half the cost of running Cornell's four statutory units — the College of Agriculture and Life Sciences,

the College of Human Ecology, the School of Industrial and Labor Relations and the College of Veterinary Medicine. Ordinarily, about 18 of some 1,850 state-funded positions must be held vacant to meet required "salary savings." The figure of 90 is on top of the usual 18, according to Barker.

The most pressing single unmet need is \$2 million in unfunded utility costs, caused mainly by flat funding since 1985 while electricity rates and consumption have risen, according to Nathan Fawcett, director of statutory college affairs.

This shortfall will be met mainly by using funds intended for job positions and by rolling over some bills into the next fiscal year, Fawcett said.

Other cost-cutting steps that Fawcett and Barker planned to cite for the trustees in-

clude canceling faculty searches within the state-supported units, freezing all vacancies, cutting purchases of equipment and supplies, suspending the offering of certain courses, and reducing research and extension activities. Layoffs remain a possibility of last resort only, but a few are possible, according to Barker.

In the original budget round in April, the executive budget gave Cornell about \$102 million for statutory operations — a subinflation increase over last year's \$100 million and about \$6 million below need.

After Cuomo's revenue shortfall was projected last month, Cornell was required to cut another \$1.175 million — on top of cuts ordained earlier — over the rest of the fiscal year.

— Sam Segal

# Ginsberg to direct Cornell-in-Washington

Benjamin Ginsberg, an expert on American electoral politics and director of the university's new Institute for Public Affairs, has been named director of the Cornell-in-Washington Program.

Bruce W. Jentleson, formerly an assistant professor at the University of California at Davis and foreign policy adviser to the presidential campaign of Tennessee Sen. Albert Gore Jr., has been named to the newly created position of associate director.

The eight-year-old program enrolls 55 juniors and seniors a semester and is open to students from any of Cornell's schools and colleges. The students study public policy or architecture with Cornell faculty and visiting instructors, hold externships with federal agencies, members of the Senate or House of Representatives or with non-profit organizations and other groups, and conduct research projects based on their externships.

The Cornell-in-Washington Program is housed in the Cornell Center at 2148 O St. NW.

"Ben Ginsberg is a noted scholar of the

American political scene who has a deep interest in the development of education programs related to public policy," said Larry I. Palmer, vice president for academic programs, who appointed Ginsberg. "He is an outstanding teacher who intellectually stimulates graduate and undergraduate students. He will give the program tremendous academic leadership."

Ginsberg, a professor of government, will remain director of the Cornell Institute for Public Affairs, which will accept its first class of graduate students in 1989. Ginsberg said he hopes to link the two programs to provide a Washington base for Cornell graduate students and to broaden the experiences of undergraduates studying in Washington. He hopes the programs eventually will lead to the creation of a school of public affairs at Cornell, Ginsberg added.

"Cornell-in-Washington is one of those programs that helps attract to Cornell the students we want here," Ginsberg said. "It is an enriching experience; it blends academics with real-world experience."

As director, Ginsberg will spend one day a week in Washington, teaching a course on contemporary politics. He will spend the rest of his time in Ithaca, overseeing faculty and student recruitment and curriculum development, according to Palmer.

As the newly appointed associate director, Jentleson will oversee day-to-day academic affairs of the program in Washington and will teach a required course on social science research methods, Palmer said. Jentleson recently served as an International Affairs Fellow of the Council on Foreign Relations.

"Bruce helped start the Cornell-in-Washington Program when he was a doctoral student here," Palmer said. "He has excellent contacts in the public policy field and will make sure that students get the maximum benefit out of being in Washington."

Ginsberg is the program's third director, following Arch T. Dotson, a professor of government, and Kermit C. Parsons, a professor of city and regional planning.

— Mark Eyerly



Charles Harrington

Benjamin Ginsberg

# Jasanoff to head Science, Technology and Society Program

Sheila Jasanoff, an associate professor in the Program on Science, Technology and Society, has been named to a three-year term as director of that program.

Jasanoff, a lawyer, is an expert on science and the law and on environmental, health and occupational safety regulation. She is the author of the book "Controlling Chemicals: The Politics of Regulation in Europe and the U.S.," and recently completed a book on scientific advisory committees to government regulatory agencies.

"Sheila Jasanoff is one of the country's most distinguished scholars in science policy studies," said Larry I. Palmer, vice president for academic affairs, who appointed Jasanoff. "She is a person of vision in designing interdisciplinary study and will be an effective academic leader for the program."

The Program on Science, Technology and Society was founded in 1969 as one of the first efforts of its type. STS-affiliated faculty are drawn from the physical, bio-

logical and social sciences, as well as the humanities, law, engineering, business and public administration.

Faculty research focuses on the role of science and technology in public policy decisions, on the ethical issues surrounding scientific research, and on the humanistic interplay among science, technology and society.

Jasanoff said she is hoping to expand the program's work in graduate and undergraduate teaching, and in helping to inform

the public about issues such as the responsibility of scientists and the use of science in public policy decision making.

Possible initiatives include establishing an STS undergraduate concentration in the physical sciences and engineering similar to the program's "biology and society" undergraduate major, she said.

Jasanoff succeeds Walter R. Lynn, who succeeded Joseph Bugliari as Cornell's dean of faculty.

— Mark Eyerly

# State preservation committee backs Ithaca on Cornell Heights

An advisory committee of the State Board of Historic Preservation has endorsed the application of the City of Ithaca to make Cornell Heights an historic district.

The recommendation, which Cornell opposed at a hearing in Albany on June 24, will go to Orin Lehman, state commissioner for parks, recreation and historic preservation. At the time of Lehman's review — probably in the fall — Cornell again will oppose the action, according to University Counsel Walter J. Relihan Jr.

The city wants to enroll Cornell Heights' 166 properties in the state's Register of Historic Places, an action Relihan said would "pave the way for similar designation under local law." That, in turn, would restrict how owners could use their properties.

The university and affiliates such as fraternities and sororities own about one-third of the properties in the community, which lies east of Stewart Avenue and north of Fall Creek gorge.

Cornell's opposition grew out of a study conducted late last year by Clarke & Rapuano, a nationally prominent firm of architectural historians and landscape architects. Their elaborate review concluded that while a few scattered properties warranted recognition, the overall community was pleasant but unhistoric.

"It is not historic preservation itself that we oppose," said David Stewart, director of community relations. "In fact, we have an

evaluation committee which is very much concerned with our own campus buildings. Our position here has to do with a specific neighborhood."

Cornell's continued opposition also will note that rented buildings, multiple residences, fraternity and sorority houses, and apartment buildings, as well as small pockets of single-family houses, prove that change is already well along and that all parties should cooperate to manage change rather than mummify the area.

Despite opposing the historic designation, Cornell hopes to work with residents and city officials to resolve broader, long-term planning issues, said John F. Burness, vice president for university relations.

He noted that the university had hired Sasaki Associates of Watertown, Mass., one of the nation's leading land-use-planning firms, to study the environs of the campus, including Cornell Heights, and that Ithaca Mayor John C. Gutenberger has shown readiness to promote discussions between the firm and local interests.

He said the university had held productive meetings over several months with leaders of the Cornell Heights Neighborhood Association, and he added: "Though there is real disagreement with some residents on this specific question, I continue to feel the long-range outlook for cooperation in a rational planning process is decidedly encouraging."

# 4 students testing overseas markets for manufacturers of U.S. products

Four Cornell students are testing markets in Europe and Asia this summer for manufacturers of U.S. products ranging from log cabins to cosmetics.

Skilled in the languages of potential customers, the students were selected to serve as agents for the United States' only public international trading company: XPORT, the foreign-trade arm of the Port Authority of New York and New Jersey.

XPORT represents 120 small- and medium-sized companies in the two states. Most of these companies are not big enough to develop their own overseas sales programs, and XPORT helps do the work for them to increase U.S. exports and lower the trade deficit.

"What we are seeing here is the public sector working with a business school to staff assignments overseas that the small companies represented by XPORT simply could never handle," said Herbert Ouida, director of XPORT, at a lunch for the students.

The intern program is administered by XPORT and Cornell's Johnson Graduate School of Management. Three of the four students are or will be candidates for the master of business administration degree in that school.

- Amy T. Huang of McLean, Va., is

in Taiwan exploring sales possibilities for New York-built log houses, cosmetics and specialized food products.

- Robert Monster of Philadelphia is in West Germany developing a data base on distribution infrastructure for medical products.

- Caroline Calkins of Ithaca is in Italy laying the groundwork for a U.S. trade mission of manufacturers of medical products.

- Martin Norman of Tallahassee, Fla., is spending the summer in West Germany, Austria and Switzerland developing market information for sale of log houses and cosmetics.

Calkins and Norman are M.B.A. candidates, Monster will enter the M.B.A. program this autumn, and Huang is a senior in the College of Arts and Sciences.

"These students are on their own overseas in very challenging assignments," said James W. Schmotter, the Johnson School's associate dean and director of Cornell's participation in the program. "I can't think of a better way to learn about international business."

Last summer, the XPORT-Cornell program sent 12 marketing interns to Europe and Asia.

— Albert E. Kaff



# CALENDAR

All items for the calendar should be submitted (typewritten, double spaced) by campus mail, U.S. mail or in person to Chronicle Calendar, Cornell News Service, Village Green, 840 Hanshaw Road, Ithaca, NY 14850.

Notices should be sent to arrive 10 days prior to publication and should include the name and telephone number of a person who can be called if there are questions.

Notices should also include the subheading of the calendar in which the item should appear.

## DANCE

### Cornell Folkdancers

The Cornell community and the general public and beginners are welcome to join in folkdancing. Admission is free, unless stated otherwise.

Instruction and request dancing, July 10, 7-9:30 p.m., North Room, Willard Straight Hall. Annual Picnic July 17, 3 to 10 p.m., in the Large Pavilion at Stewart Park, dinner at 6 p.m.

### Summer Session

The Multigravitational Aerodance Group, July 14, 7 p.m., in the Arts Quad (rain location, Barnes auditorium).

The Ithaca Opera Association will present Elizabeth Swados' "Nightclub Cantata," July 22, 8:15 p.m.

An Evening with the Ithaca Ballet, July 28 and 29, 8:15 p.m., Barnes Hall.

## EXHIBITS

### Johnson Art Museum

The Herbert F. Johnson Museum of Art, on the corner of University and Central avenues, is open Tuesday through Sunday from 10 a.m. to 5 p.m. Admission is free. Call 255-6464 for further information.

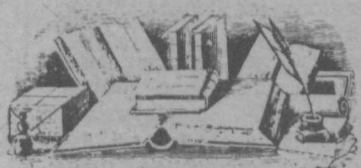
"Knots and Nets," featuring more than 70 works that trace the use of knots and nets from functional and ceremonial objects of the past to contemporary art objects of unexpected form and scale, July 12 through Sept. 25. In addition to the historical, archeological and modern pieces, approximately 36 works by six American artists — Joanne Segal Brandford, Tim Harding, Diane Iiter, Rebecca Medel, John McQueen and Jane Sauer — will be shown.

"Articipation-at-the-Museum," in conjunction with the exhibition, will feature artists hands-on projects involving knotting and netting materials and techniques, July 17, 10 a.m. to 5 p.m.

"Articipation-on-the-Commons," will feature members of the education department demonstrating and teaching various netting techniques, July 21-23, 10 a.m. to 5 p.m.

### Olin Library

"Alexander Pope Tercentenary," early editions and portraits celebrating the 300th anniversary of the celebrated English poet, will be on view through July 30, Monday-Friday, 8 a.m. to noon and 1 p.m. to 5 p.m.



## FILMS

Unless otherwise noted, films are sponsored by Cornell Cinema. An (\*) indicates that admission is charged.

### Thursday, 7/7

"Funny, Dirty Little War" (1985), directed by Hector Olivera, 8:30 p.m., Uris.\*

### Friday, 7/8

"Two English Girls" (1971), directed by Francois Truffaut, with Jean Pierre Leaud, Kida Markham and Stacey Tendeter, 7 p.m., Uris.\*

"Roxanne" (1987), directed by Fred Schepisi, with Steve Martin, and Daryl Hannah, 9 p.m., Anabel Taylor.\*

"2001: A Space Odyssey" (1968), directed by Stanley Kubrick, with Keir Dullea and Gary Lockwood, 9:45 p.m., Uris.\*

### Saturday, 7/9

"Two English Girls," 7 p.m., Uris.\*

"Roxanne," 9 p.m., Anabel Taylor.\*

"2001: A Space Odyssey," 9:45 p.m., Uris.\*

### Sunday, 7/10

"Potemkin" (1925), with musical accompaniment by David Borden, directed by Sergei Eisenstein and shown with "Kino Pravda," directed by Dziga Vertov, co-sponsored by Cornell Summer Session, 8:30 p.m., Uris.\*

### Monday, 7/11

"Entre Nous" (1983), directed by Dian Kurys, with Miou Miou, Isabelle Huppert and Guy Marchand, 8:30 p.m., Uris.\*

### Tuesday, 7/12

"Citizen Kane" (1941), directed by Orson Welles, with Orson Welles, Joseph Cotten, 8:30 p.m., Uris.\*

### Wednesday, 7/13

"Pink Floyd: The Wall" (1982), directed by Alan Parker, with Bob Geldof and Bob Hoskins, 8:30 p.m., Uris.\*

### Thursday, 7/14

"A Jumpin' Night in the Garden of Eden" (1988), directed by Michal Goldman, 8:30 p.m., Uris.\*

### Friday, 7/15

"Distant Harmony" (1987), a documentary about tenor Luciano Pavarotti's 1986 tour of China, directed by DeWitt Sage, with Luciano Pavarotti, 7:30 p.m., Uris.\*

"Singin' in the Rain" (1951), directed by Gene Kelly and Stanley Donen, with Gene Kelly, Donald O'Connor, Debbie Reynolds and Jean Hagen, 9 p.m., Anabel Taylor.\*

"The Road Warrior" (1982), directed by George Miller, with Mel Gibson, 9:45 p.m., Uris.\*

### Saturday, 7/16

"Distant Harmony," 7:30 p.m., Uris.\*

"Singin' in the Rain," 9 p.m., Anabel Taylor.\*

"The Road Warrior," 9:45 p.m., Uris.\*

### Sunday, 7/17

"A Woman of Paris" (1923), with musical accompaniment by David Borden, directed by Charlie Chaplin with Edna Purviance and Adolphe Menjou, shown with "His New Job," directed by Charlie Chaplin, co-sponsored by Cornell Summer Session, 8:30 p.m., Uris.\*

### Monday, 7/18

"The Mystery of Picasso" (1955), directed by Henri-George Clouzot, 8:30 p.m. Uris.\*

### Tuesday, 7/19

"Padre Padrone" (1977), directed by Paolo and Vittorio Taviani, with Omero Antonutti, Saverlo Marloni and Marcella Michelangeli, 8:30 p.m., Uris.\*

### Wednesday, 7/20

"The Mouse That Roared" (1959), directed by Peter Sellers, with Peter Sellers, Jean Seberg and David Kossoff, 8:30 p.m., Uris.\*

### Thursday, 7/21

"Elena and Her Men" (Elena et les Hommes) (1956), directed by Jean Renoir, with Ingrid Bergman, Mel Ferrer and Jean Marais, 8:30 p.m., Uris.\*

## LECTURES

### Summer Session

"On Insect Flight and Flights of Fancy," Thomas Eisner, Jacob Gould Schurman Professor of Biology, July 13, 8:15 p.m., Bailey Hall.

"Airline Deregulation: Do I Apologize or Gloat?" Alfred E. Kahn, Robert Julius Thorne Professor of Economics, July 20, 8:15 p.m., Bailey Hall.

## MUSIC

### Bound for Glory

Patti Meyer and Gary Lee, contemporary and traditional folk music duo from Buffalo, July 10; The Dady Brothers, Irish to Bluegrass, July 17. Bound for Glory presents three live sets, at 8:30, 9:30 and 10:30 p.m., Sundays at the Commons Coffeehouse, Anabel Taylor Hall. Admission is free. The show can be heard from 8 to 11 p.m. on WVBR-FM93.

### Summer Session

Outdoor concerts will be held throughout the summer at 7 p.m. on the Arts Quad (Kaufmann Auditorium, Goldwin Smith Hall in case of rain). Sundog, a band from New Haven, Vt., will perform Afro-Caribbean and reggae music on July 7; Poncho, a singer-songwriter and acoustic guitarist from the Adirondack mountains, on July 12; Chestnut Grove, traditional and contemporary bluegrass, on July 19.

The Cornell Savoyards will present "A Gilbert and Sullivan Potpourri: Perils, Passions and Pratfalls," as part of the Summer Session Performing Arts Series, July 8 and July 15, 8:15 p.m., Barnes Hall. The show will include selections from most of the Gilbert and Sullivan operas, including "Patience," "H.M.S. Pinafore," "The Pirates of Penzance," "The Mikado," "Iolanthe" and "Ruddigore," and will feature two dozen singers and a six-piece orchestra.

Donald R.M. Paterson, associate professor of music, university organist and Sage Chapel

choirmaster, will perform an organ concert July 11, 8:15 p.m. Anabel Taylor Chapel. His program will include works by Johann Sebastian Bach, Louis Couperin and Johann Pachelbel.

Rolfe Sokol and Wendy Maraniss will perform in a violin and piano concert, July 18, 8:15 p.m., in Barnes Hall.

Jonathan Shames, lecturer, department of music, will give a piano concert July 25, 8:15 p.m., Barnes Hall.

### The Learning Web

Mark Rust will perform in concert July 9, 8:30 p.m., in the Founders Room, Anabel Taylor Hall. The concert will benefit the Learning Web, which provides hands-on experience to young people. Tickets are \$4 and are available at the door. For more information call 255-5026.

## RELIGION

### Sage Chapel

Kathleen Finney, parish associate of the First Congregational Church, will be the speaker for the July 10 interfaith service, beginning at 11 a.m., in Sage Chapel.

Laurence Edwards, university Jewish chaplain, will be the speaker for the July 17 interfaith service.

### Catholic

Mass: Every Saturday, 5 p.m., every Sunday, 10 a.m., Anabel Taylor Auditorium.

Daily Masses will be announced on a weekly basis.

### Christian Science

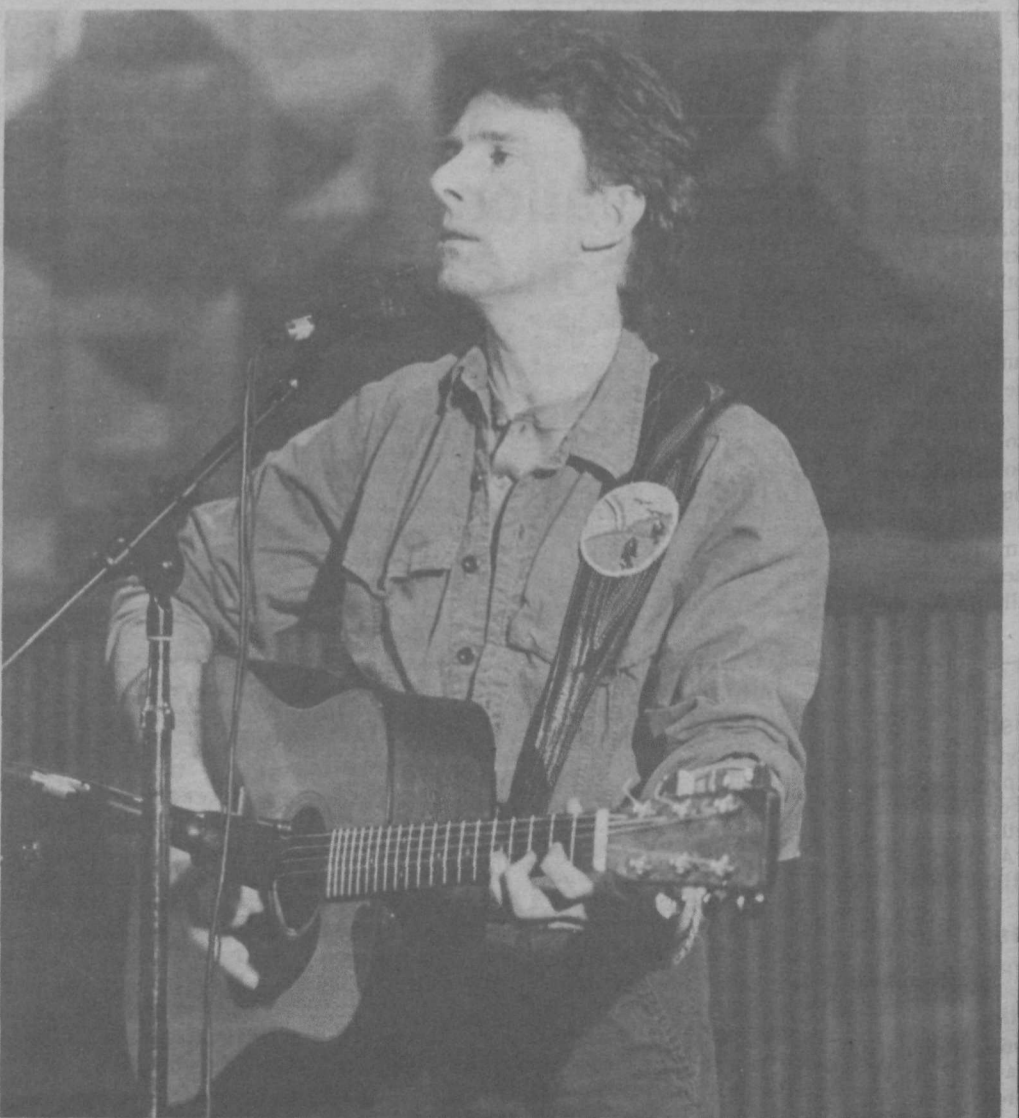
Testimony Meeting: Every Thursday, 7 p.m., the Anabel Taylor Founders Room.

### Episcopal (Anglican)

Every Sunday, 9:30 a.m., Anabel Taylor Chapel.

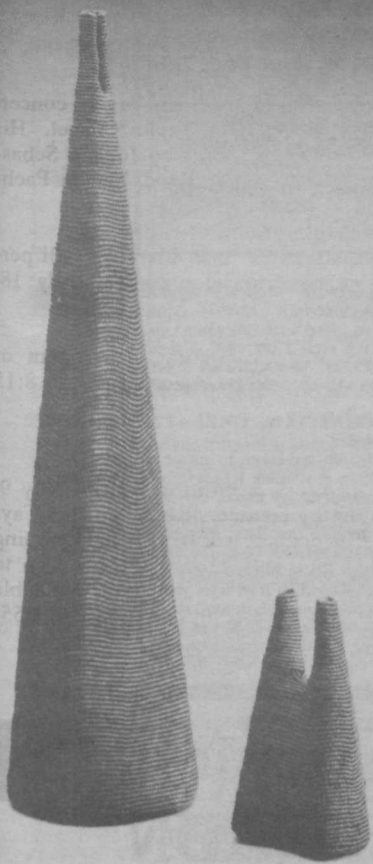
### Friends (Quakers)

Worship will be at the Hector Meeting House, Perry City Road, at 10:30 a.m. Rides available in Anabel Taylor parking lot at 10 a.m.



Poncho, a singer-songwriter and acoustic guitarist from the Adirondack mountains, will perform on July 12 at 7 p.m. on the Arts Quad.





Mark Katzman

Parture," 1988 by Jane Sauer, from "Knots and Nets" exhibit that opens the Johnson Museum on July 12.

## Knots and Nets' Exhibit to open at the Johnson

Knots and Nets, a major crafts exhibition featuring some 65 works tracing the use of knots and nets from functional and ceremonial objects of the past to contemporary art objects, will open at the Johnson Museum of Art on July 12.

The exhibit will be on view through Sept. 25, after which it will travel to the New York State Museum in Albany and the Parrish Art Museum in Southampton.

African, Oceanic, South and Central American, Russian and Native American netted and knotted objects, as well as maritime decorative knots, will be on display. Selected modern works of art will illustrate ways that 20th century American artists use basic knots and nets to create nonfunctional forms.

The show includes pieces by Ed Ross, Claire Zeisler, Françoise Grossen, Ada Benglis and Gary Trentham, and some works by six American artists, some of which have been created especially for the exhibition.

Four of these six artists — Joanne Segal, Bradford, Diane Iiter, Rebecca Medel and Jane Sauer — have been working exclusively with knotting and/or netting for several years. Others — John McQueen and Tim Harlan — have just begun to experiment with the craft.

Wanda Neumann Press was guest curator for the show. Generous gifts were received from museum patrons Samuel Curtis Johnson, Imogene Powers Johnson and Karen Johnson Boyd to publish the Knots and Nets catalogue. A \$20,000 grant from the National Endowment for the Arts has helped fund many aspects of the exhibition, including the creation of works commissioned specifically for the show.

### Protestant

Protestant Cooperative Ministry: Every Sunday, 11:15 a.m., Anabel Taylor Chapel.

Baptist Campus Ministry (SBC): Every Tuesday, 7:30 p.m., Anabel Taylor Chapel.

### Zen Buddhism

Zazen meditation: Tuesdays at 7 p.m., Edwards Room, Anabel Taylor Hall. Every Thursday 5:10 p.m., Anabel Taylor Chapel. For more information or to arrange beginner's instruction, call Ian Dobson at 277-4364.

## SEMINARS

### Summer Session

Great Books seminars, "Mothers/Daughters/Fathers/Sons," led by Jonathan B. Monroe, comparative literature, will be held throughout the six-week summer session, Tuesdays at noon in 110 A.D. White House: the continued discussion of Turgenev's "Fathers and Sons," July 12; Woolf's "To the Lighthouse," July 19 and 26; Kafka's "Letter to His Father," together with Gordimer's "Letter from His Father," Aug. 2.

"Computers as Wind Tunnels: Aerodynamics from the Sound Barrier to the Energy Crisis," David A. Caughey, acting director of the Cornell Theory Center and professor of mechanical and aerospace engineering, July 7, noon, 213 Ives Hall.

"Flight from Reality: Can We Predict Mental Disorders?" Mark F. Lenzenweger, assistant professor human development and family studies, July 14, noon, 213 Ives Hall.

## SYMPOSLIA

### Cornell Plantations

The 1988 Northeast Regional Meeting of the American Association of Arboreta and Botanical Gardens will be held July 15 and 16. Participants will have an opportunity to be introduced to Cornell's plant science resources and to discuss practical management problems as they relate to the collections at the Plantations. Profes-



C. Hadley Smith

University Organist and Sage Chapel Choirmaster Donald R.M. Paterson will give an organ concert July 11 at 8:15 p.m. Anabel Taylor Chapel. His program will include works by Johann Sebastian Bach, Louis Couperin and Johann Pachelbel.

sionals in the plant sciences interested in attending can get more information on the program by contacting Raylen Gardner, plantations education coordinator, at 255-2407.

18. The tour will begin at noon at the Plantations headquarters building. Call 255-3020 for directions.

A series of tours of the university's architecture will be given by Maurice S. Luker III, a graduate student in the history of architecture program, on July 11, July 18, July 25 and Aug. 1. The tours depart at 6:30 p.m. from the statue of Ezra Cornell on the Arts Quad.

Tours of the Cornell National Supercomputer Facility, designated by the National Science Foundation as one of four National Advanced Scientific Computer Centers, will be given on July 13, July 20, July 27 and Aug. 3, beginning at noon. Advance sign-up is required. Call Donna Smith at 255-9862 to reserve a place.

### Cornell Waste Watchers

Cornell Waste Watchers, a group of staff, students and faculty working for an expanded university-sponsored recycling program and for solid-waste reduction on campus, Thursdays, July 7 and July 21 at 4 p.m. in Room 314 of Anabel Taylor Hall. For more information, call Paul Aeschleman at 255-7832.

### Library Tours

Tours of Uris Library presenting its history and architecture will be conducted by staff members every Monday at 4 p.m., July 11, July 18, July 25, and Aug. 1. All tours begin in the main lobby of the library.

## MISC

### Christian Science Monitor

The Christian Science Monitor Resource Files will be available, free of charge, in Willard Straight Lobby July 13 and 14, 10 a.m. to 4 p.m. The files contain up-to-the-minute newspaper articles on over 150 topics useful for writing papers, preparing speeches, studying for exams and teaching.

### Summer Session Tours

A tour of the Willard Straight Rock Garden, located between Willard Straight Hall and Gannett Health Center, will be given by Robert G. Mower, professor of floriculture and ornamental horticulture, at noon on July 11.

A tour of the Robison York State Herb Garden, will be given by Raylene Gardner, the plantations education coordinator, on July 8 and July



Sundog, a band from New Haven, Vt., will give a concert of Afro-Caribbean and reggae music on the Arts Quad tonight at 7 p.m. "Think Globally — Dance Locally" is their motto.

Conservative/Egalitarian Services: Friday 9:15 a.m., Saturday 10 a.m., Anabel Taylor Founders Room.

Orthodox Shabbat Services: Saturday 9:15 a.m., Anabel Taylor Edwards Room Young Is-106 West Ave. Call 272-5810 for time.

Methodist Church Every Sunday, 3 p.m. Anabel Taylor Hall.

Muslim Sunday through Thursday, 1 p.m., 218 Anabel Taylor Hall. Friday 1 p.m. Anabel Taylor Edwards Room.



# Job Opportunities

July 7, 1988  
Number 25  
Office of Human Resources  
Cornell University  
160 Day Hall  
Ithaca, New York 14853-2801

In compliance with the Immigration Reform and Control Act of 1986, Cornell University is now required to check the identity and employment eligibility of all new hires.

Effective June 1, 1987, if you accept a position, you must show documents on or before your first day of work, that indicate your identity and employment eligibility; for example, a state issued driver's license and a birth certificate. For more information, contact Staffing Services, 255-5226.

-DURING THE SUMMER, JOB OPPORTUNITIES WILL BE PRINTED SEPARATELY ON JULY 14, 28, AUGUST 11 & 18. THE CORNELL CHRONICLE RESUMES ITS WEEKLY SCHEDULE AUGUST 25.

-Interviews are conducted by appointment only.

-Send cover letters & resumes to Staffing Services, 160 Day Hall, Cornell University, Ithaca, NY 14853.

-Employment & employee transfer application forms are available at both Staffing Services locations-160 Day Hall & East Hill Plaza.

-Requests for referral &/or cover letters are not accepted unless specified in the ad.

-Cornell University is an Affirmative Action/Equal Opportunity Employer.

-This listing is also available on CUINFO. Terminals are situated in main lobbies of Day Hall & Gannett Clinic, & the Olin, Mann & ILR Libraries.

-DEPTS.-Deadline for submission is noon on Thursday for following week's Job Opportunities.

-Minimum salaries listed are for recruitment purposes only.

-S=Statutory; E=Endowed

## Administrative and Professional

**EXEC. STAFF ASST. I (PC2514) Coop. Ext., NYC-S**

Perform tasks related to planning, implementation, evaluation & operation of Urban Hort. EdI. Program in NYC.

Req.: BA w/coursework &/or work exp. which will give a working knowl. of plant sci. concepts & theory. Min. 1 yr. related work in org. people, events & info. Able to understand & respond to needs of a multicultural audience. Valid NYS driver's lic. Good comm. (written/oral) skills. Photography skills & exp. Letter & resume to Esther Smith.

**RESEARCH SUPPORT SPEC. I (PT2507) Agronomy-S**

Assist in research of micronutrients & trace metals in soils, waters, & plants. Maintain & operate aspects of research program, develop & evaluate methodology, models, data, stat. analyze results & survey literature.

Req.: MS in chem. or soil sci. & strong trng. in analytical chem. 2-4 yrs. research exp. & demonstrated aptitude in chem. analyses of soils & plant tissues. Letter & resume to Judi Baker by 7/22.

**EXTENSION SUPPORT AIDE (PA2502) HDF-S**

Coord. Linking Up program activities at Rochester site. Work w/local businesses & industries to recruit adult mentors; orient & train adults, contact w/youths & families, coord. group mtgs. & assist w/research activities.

Req.: BA, ed., human svcs., human relations or psych. 2 yrs. exp. working w/youth programs, some program admin. pref. Familiar w/Rochester community essential. Letter & resume to Cynthia Smithbower.

**STAFF NURSE (PA2501) Health Svcs.-E**

Screen, assess & treat or refer patients, using clinical skills developed in nursing school.

Req.: Grad. of accredited Nursing School. Possess or be eligible to receive NYS Nursing Lic. Must receive Red Cross cert. in Basic CPR w/in 6 months of employment. Min. 1 yr. exp. in: clinic or ambulatory care, hospital care, or Emergency Room. Letter & resume to Cynthia Smithbower.

**OPERATIONS MANAGER I (PA2503) Statler Hotel-E**

Under gen'l. direction, provide managerial support for all hotel food production, beverage, stewarding, vending & dining room operations. Administer Weekend Operations Program.

Req.: BS in hotel mgmt. 3-5 yrs. directly related exp. Labor relations exp. plus. Demonstrated comm. & superv. skills. Exc. financial mgmt. & planning skills. Letter & resume to Cynthia Smithbower by 7/22.

**BUYER (PA1602) Purchasing-E**

Under gen'l. spsn., manage assigned commodities to ensure quantity, delivery & cost objectives, as establ. by customer or Univ., & cost met.

Req.: BS in busn. or tech./busn. program. Operating familiarity w/PC's. Exposure to purchasing techniques desir. Letter & resume to Cynthia Smithbower by 7/22.

**FACILITY DIRECTOR (PA2301) Biotechnology-E**

Resp. for operation of Computer & Flow Cytometry/Fluorescence Imaging Facility. Computer facility consists of 3 graphics work stations using UNIX operating system. Admin. resp. incl. budgeting operating costs, recommending user fees & capital purchases. Supv. a technician.

Req.: BS comp. sci., engr., phys. sci. or bio. sci. Advanced degree pref. 2-4 yrs. related mgmt. incl. exp. in mainframe networking (e.g. Ethernet), optics & computer graphics pref. Letter & resume to Cynthia Smithbower by 7/17.

**TRADES SUPERVISOR (PT2210) M&SO-E**

Supv. union carpenter shop incl. work assignments, trng. & related admin. functions. Liaison w/customers to secure work orders; coord. & provide quality svc.

Req.: H.S. dip. or equiv. completion of apprenticeship program plus 7 yrs. carpentry exp. Demonstrated superv., interper., org. & comm. skills req. Letter & resume to Judi Baker ASAP.

**DANCE PROGRAM ACCOMPANIST (PA2401) Athletics-E**

Team teach, w/dance faculty, Beginning Dance Composition & Music Resources. Accompany dance classes (improvise in several styles). Compose & perform music for dance concerts. Supv. p/t accompanist & maintain all equip.

Req.: BA, theatre arts or related field. Exp. accompanying modern dance classes. Composing for dance/teaching music fundamentals. Interest in music for dance & ability to relate easily & work w/dance faculty & students essential. Letter & resume to Cynthia Smithbower by 7/15.

**CONCESSIONS/EVENT MGR. (PA2402) Athletics-E**

Manage all aspects of food concessions for athletic & special events. Supv. intercollegiate event mgmt. in coop. w/operations & facilities set-up staff.

Req.: BA, sports admin. or related field & 1-2 yrs. in food/event/retail mgmt. Or AAS & 3-5 yrs. exp. Highly developed comm. & interper. skills. Creative self-starter. Must have demonstrated ability to meet schedules & work under significant pressure. Exp. in personnel superv., purchasing mgmt. & fiscal control. Letter & resume to Cynthia Smithbower by 7/10.

**TEACHING SUPPORT SPECIALIST II (PA2403) Hotel Admin.-E**

Assist in developing case studies, other assignments & new course mater'l. Resp. for admin. of up to 10 teaching assts. & will handle other org. details. Acquire classroom & research mater'ls.; prep. quarterly exhibits for dept. 9 month position.

Req.: BS, hotel admin. or BS/B in Arch. in design/architecture. 1 yr. design or project develop. exp. &/or design/arch. plus 2 yrs. hospitality exp. Letter & resume to Cynthia Smithbower by 7/15.

**TEACHING SUPPORT SPECIALIST II (PA2404) Hotel Admin.-E**

Assist in developing demonstrations, lesson plans, lectures & do research necessary to support materials for Info. Systems courses. Oversee TA's & handle admin. details. Present several lectures & demonstrations. 9 month position.

Req.: BS in hotel admin. 2+ yrs. mgmt. exp. in hospitality operations. Some knowl. of IBM PC & Mac computers incl. extensive operations knowl. essential. Letter & resume to Cynthia Smithbower by 7/15.

**ADMIN. ASSOC. (PC2423) Finance & Business Svcs.-S**

Resp. for superv. & providing leadership in acctg. & admin. of over 4,000 accts. & \$60M of activity for 4 partially State supported colleges.

Req.: BS pref. in acctg. & busn. admin. Min. 5 yrs. restricted fund acctg. exp.; If holding MBA or CPA, 3 yrs. exp. Able to use IBM-PC & generate spreadsheet analysis; understanding of mainframe computer application req. Letter & resume to Esther Smith by 7/14.

**ADVERTISING & PUBLICITY ASSOCIATE (PC2401) CU Press-E**

Coord., write & produce journal, newspaper & magazine ads. Assist mktg. dept. in publicity.

Req.: BA or equiv. Good writing & proofreading skills nec. Some design trng. pref. Working knowl. of Mac Pagemaker. Letter, resume & writing samples to Esther Smith by 7/11.

## Clerical

**REGULAR EMPLOYEES** Submit employee transfer application, resume & cover letter.

Career counseling interviews available by appt. **EXTERNAL APPLICANTS** Mail employment application & resume to 160 Day Hall. Interviews conducted at Staffing Services, East Hill Plaza by appt. only. Qualified applicants are contacted after materials are reviewed.

**ACCTS. ASST., GR18 (C2508) Media Svcs.-S**

Complete resp. for IBM-PC Invoicing System for large distribution operation. Prep. charge purchase invoices; cash & check deposits; maintain order files; inventory of publications on IBM-PC; research lost &/or defective orders; authorize credit returns; prep. reports.

Req.: H.S. dip.; busn. school desir. Min. 1-2 yrs. offic. exp. Computer exp. necessary. Working knowl. of IBM-PC desir. Good interper., org. & comm. skills req. Med. typing. Min. Biweekly: \$487.50

**SECRETARY, GR18 (C2507) Internat'l. Students & Scholars-E**

Serve as offic. receipt. Provide sec. support for several staff members. Refer foreign students to approval. staff members for assistance; type; WP (IBM-PC); file.

Req.: H.S. dip. or equiv. Busn./sec. school pref. Exp. dealing w/public. Able to work under pressure w/many interruptions. Med. typing. Min. Biweekly: \$487.50

**SECRETARY, GR18 (C2513) Mann Library-S**

Provide admin. support for 9 public svcs. librarians. Maintain reference & index collection of 17,000 volumes, oversee info. asst. in maint. of collections & gen'l. offic. work.

Req.: H.S. dip. or equiv. Able to work w/wide variety of people in public svcs. capacity. WP skills essential. Familiar w/IBM-PC &/or Mac desir. Able to set priorities & work indep. Org. & interper. skills essential. Med. typing. Min. Biweekly: \$487.50

**SECRETARY, GR18 (C2424) Education-S**

Provide support for NY Agric. in classroom program incl. offic. coord. duties & sec. support. Type letters, newsletters, lists, publications; procure published materials for notebooks, purchase materials; supv. assembling & shipment of materials for distribution; make arrangements for conferences, mtgs., workshops, trng. sessions. Until 9/30. Continuation dependent upon avail. of funding.

Req.: AAS or equiv. Min. 1-2 yrs. offic. exp., proficient on microcomputer (Mac & Apple IIe). Shorthand helpful. Med. typing. Min. Biweekly: \$487.50

**SECRETARY, GR18 (C2504) Theory Center-E**

Act as receipt. for Cornell Nat'l. Supercomputer Facility w/addit'l. resp. for workshop arrangements & sec. support svcs.

Req.: H.S. dip. or equiv. Sec. school pref. Min. 1-2 yrs. related offic. exp. WP exp., familiar w/computers helpful. Strong interper. & comm. skills. Med. typing. Min. Biweekly: \$487.50

**SECRETARY, GR18 (C2502) Law School-E**

Provide sec. support to faculty. WP of manuscripts, briefs, corresp., class materials; coord. travel arrangements; prep. travel & reimbursement vouchers; research references & citations in Law Libr.; copy, file, answer phone.

Req.: H.S. dip. or equiv. Busn./sec. school pref. Offic. exp. & familiar w/IBM PC. Word-perfect desir. Able to coord. & prioritize variety of tasks nec. Heavy typing. Min. Biweekly: \$487.50

**PURCHASING ASST., GR19 (C2404) Hotel Admin.-E**

Resp. for obtaining all non-food & beverage materials, supplies & equip. at best price & in accordance with CU policy.

Req.: AAS in related field or equiv. Familiar w/CU purchasing & acctg. or related busn. exp. Able to use calculators & PC's essential. Must have exc. interper. & comm. skills. Med. typing. Min. Biweekly: \$510.90

**SECRETARY, GR19 (C2516) Ag. Economics-S**

Provide wide range of research, mgmt. info. system, admin./sec. & computer support assistance to 2 faculty members, prof. staff & grad. students w/number of active research & ext. programs.

Req.: AAS. Min. 1-2 yrs. exp. in computer prgrmg. or processing & related offic. exp. Strong interper., org. & comm. (written/oral/editing) skills req. Must have previous exp. or trng. in computer prgrmg. or data processing. Should be familiar w/micro computers & variety of computer software. Able to work indep. w/little superv. Min. Biweekly: \$510.90

**ACCTS. ASST., GR20 (C2515) Animal Science-S**

Act as resource person & handle all clerical aspects of non-academic Personnel Admin. in large academic dept. Process all non-academic appt. forms incl. students; prep. & process bi-weekly p/r vouchers; receive & distribute p/r checks; process & pay all vouchers.

Req.: AAS or equiv. 1 yr. Personnel or acctg. exp. in Stat. colleges. Min. Biweekly: \$534.30

**ACCTS. ASST., GR20 (C2426) Law School-E**

Prep. college p/r, process vouchers & invoices & maintain accurate acctg. records & reports; reconcile dept. records, monitor acctg.; using CUDA provide monthly financial reports; assist w/special projects as assigned.

Req.: AAS in acctg. or busn. pref. 2-3 yrs. related exp. req. Exp. w/IBM-PC, Lotus 123, dBase III & WP pref. Exp. w/CU p/r, acctg. & budgeting pref. Confidentiality & high degree of accuracy req. Able to set priorities, meet deadlines & communicate effectively w/variety of people. Lt. typing. Min. Biweekly: \$534.30

**ACCTS. ASST., GR20 (C2421) Eng. & Fac. Admin. Svcs.-E**

Review & edit job cost input for Grounds & M&SO depts. Coord. processing of vendor invoices. Answer customer billing inquiries. Prep. special acctg. & project cost analysis. Prep. monthly, quarterly, y/d reports. Process purchase orders & requests for svcs. 7:30 a.m.-4 p.m.

Req.: AAS or equiv. in busn. mgmt. or acctg. Min. 2-3 yrs. exp. in acctg. or busn. offic. pref. CU acctg. exp. desir. Lt. typing. Min. Biweekly: \$534.30

**ADMIN. AIDE, GR20 (C2407) Mann Library-S**

Provide sec./admin. support for Dir. in busy offic. Type & expedite psnl. forms; maintain personnel files; arrange complex travel, mtg. & appt. schedules; act as receipt. & screen calls; sort & interpret mail; resp. for all student employee forms/records.

Req.: AAS or equiv. Min. 2 yrs. offic. exp. pref. Able to set priorities & work in a complex, active environ. Computer exp. Exc. comm. (written/oral) skills. Attention to detail. Heavy typing. Min. Biweekly: \$534.30

**ACCTS. COORD., GR21 (C2505) NYSSILR-Dean's Office-S**

Resp. for financial admin. of restricted funds, incl. p/r transactions; review grant & contract proposals & implement awards, verify & distribute all paychecks; maintain Chart of Accts.; establish, revise, delete accts.

Req.: AAS in acctg. or equiv. Exp. Min. 2-3 yrs. related exp., pref. w/CU Stat. restricted acctg. procedures. Maintain confidentiality. Exc. interper. skills. Able to interpret complex grant & contract documents. Competent w/micro-computer spreadsheet, database & WP programs. Min. Biweekly: \$557.70

**ADMIN. AIDE, GR21 (C2412) Computer Svcs.-E**

Provide admin. & financial asst. to Dir., Academic Computing; serve as offic. coord. for Academic Comp., review finan. transactions & act as liaison w/CU Comp. Svcs. Office of Mgmt. & Budget.

Req.: AAS or equiv. exp. Subst. exp. w/related admin. & financial resp. Exp. w/micro-computer, WP & spreadsheets. Supv. exp. req. Strong org., interper. & comm. skills nec. Heavy typing. Min. Biweekly: \$557.70

**ACCTS. COORD., GR24 (C2510) Controller's/Endowed Acctg.-E**

Acctg. for & prep. of finan. data in accordance w/prescribed guidelines for sponsored grants & contracts; advise & assist CU depts. in finan. admin. of sponsored agreements; establish accts., monitor expenditures & prep. monthly, quarterly & annual reports.

Req.: AAS in acctg. or equiv. BA desir. Min. 3-5 yrs. exp., 2 yrs. CU exp. desir. Knowl. of Lotus 123. Exc. comm (written/oral) skills are essential. Min. Biweekly: \$639.60

## General Service

**REGULAR EMPLOYEES** Submit employee transfer application to Staffing Services, 160 Day Hall. Interviews conducted by appt. only.

**EXTERNAL APPLICANTS** Mail employment application to Staffing Services, 160 Day Hall. Interviews conducted by appt. only. Qualified applicants are contacted after materials are reviewed.

**CUSTODIAN, SO02 (G2503) Buildings Care-S**

Provide gen'l. custodial care of bldgs. & grounds in immediate vicinity of assigned area. Mon.-Thur., 6 a.m.-2:30 p.m.; Fri. 6 a.m.-1:30 p.m.

Req.: H.S. dip. or equiv. Able to operate a variety of heavy power equip., lift 50 lbs. & climb an 8 ft. ladder. Basic reading & writing skills. Min. hourly: \$5.75

**CUSTODIAN, SO02 (G2502) Buildings Care-E**

Provide gen'l. custodial care of bldgs. & grounds in immediate vicinity of assigned area. Mon.-Thur., 6 a.m.-2:30 p.m.; Fri. 6 a.m.-1:30 p.m.

Req.: H.S. dip. or equiv. Able to operate a variety of heavy power equip., lift 50 lbs. & climb an 8 ft. ladder. Basic reading & writing skills. Min. hourly: \$5.75

**UNIV. SERVICE OFFICER, GR02 (G2501) Public Safety-E**

Resp. for prevention & detection of criminal behavior; external & internal patrol of Univ. property within assigned area for fire, safety & crime hazards; enforcement of parking regulations on campus.

Req.: H.S. dip. or equiv. Formal ed., trng. or exp. in law enforcement field pref. Satisfactory completion of basic Univ. Service Officer trng. U.S. citizenship; eyesight 20-40 corrected to 20-20; no record of convictions other than minor traffic infractions. NYS driver's lic.; able to obtain NYS pistol permit within 90 days of employment. Must pass physical exam. Letter & resume to Esther Smith. Min. hourly: \$6.75

**MAINTENANCE MECH., SO07 (G2504) Buildings Care-E**

Srv., repair & perform preventative maint. on large variety of heavy duty, industrial rated cleaning equip. utilized by 270 Custodians, work w/limited superv. & drive vehicle on campus to perform on-site svcs. & repair. Mon.-Fri., 7-4:30.

Req.: H.S. dip. or equiv. Must possess a valid NYS driver's lic. Min. 3 yrs. quality exp. in repairing & maintaining state of the arch mechanized industrial cleaning equip. Must be able to read & interpret complex written instructions, schematics & diagrams; troubleshoot & repair equip. Min. hourly: \$7.15

## Technical

**REGULAR EMPLOYEES:** Submit employee transfer application, resume & letter.

**EXTERNAL APPLICANTS:** Mail employment application, resume, & list of lab techniques/equip., or computer software/hardware with which you are familiar. Submit letter per position, specify title, dept. & job number. Interviews conducted by appt. only. Qualified applicants are contacted after materials are reviewed. Backgrounds highly desired: biochem., chem., microbio., elect., physics, lic. animal health tech.

**TECHNICAL ASST., GR16 (T2306) Neurobiology & Behavior-S**

Routine lab duties: prep. samples for chem. analysis, wash glassware, make media, run errand. Routine maint. & care of lab colonies of insects incl. moths, butterflies, bugs, cockroaches, ants & other animals such as birds, frogs, etc. Greenhouse duties incl. starting & transplanting plants, watering, etc.

Req.: H.S. dip. or equiv. Apply ASAP. Min. Biweekly: \$448.50

**TECHNICIAN, GR18 (T2503, T2504) Lab Animal Svcs.-S**

Resp. for care of lab animals, incl. feeding, watering & exercise. Clean & maintain cages, pens, environ. Maintain animal identification, inventories & breeding records. 5 days/wk. incl. wknds.

Req.: AAS in animal sci. pref. or equiv. Animal exp. desir. Asst. Animal Cert. helpful. Must be in good physical condition; able to lift 50 lbs. Pre-employment physical req. & all req. immunization initiated. Apply ASAP. Min. Biweekly: \$487.50

**DAIRY WORKER, SO04 (T2508) Animal Science-S**

Milk, feed, maintain & care for dairy cattle on night milk shift. Set-up, maintain milking parlor. Haul & repair manure equip. if nec. Some wknds. 11 p.m.-7:30 a.m.

Req.: H.S. dip. or equiv. some exp. pref. NYS Class 5 driver's lic. Lift 100 lbs. Pre-employment physical req. Apply ASAP. Min. hourly: \$6.25

**TECHNICIAN, GR20 (T2502) Chemistry-E**

Synthesis of organic compounds, polymerization reactions; use & routine maint. of modern analytical equip.; assist in daily operation of research lab.

Req.: BS in chem. or equiv. Previous lab exp. Familiar w/operation of modern instrumentation & microcomputers nec. Apply ASAP. Min. Biweekly: \$534.30

**TECHNICIAN, GR20 (T2505) Vet. Micro-Baker Institute-S**

Assist in infectious disease oriented immunology. Provide support in investigation of immune response in rats to bacterium *Listeria monocytogenes*. Tissue culture & biochem. techniques, handle infectious bacteria & animals, bacterial cultures & extracting bacterial antigens, & prep.

of glassware. Maintain supplies & radiation safety records.

Req.: AAS in microbio. or related field; BS/BA pref. 2 yrs. exp. w/tissue culture techniques. Sci. bkgrnd. & lab & animal exp. desir. Apply ASAP. Min. Biweekly: \$534.30

**TECHNICIAN, GR21 (T2506) Animal Science-S**

Provide assistance to meats research group. Develop & validate RIA's for plasma or serum hormones e.g. glucagon, cortisol. Supv. & conduct animal experiments. Mng. lab. Summarize & interpret. raw data. Prep. computer assisted summary tables.

Req.: BS in bio. sci. or equiv. 1-3 yrs. lab exp. Knowl. of RIA's, enzyme assays, chromatography, surgical procedures (i.e. catheterization), stat. analysis & wet lab biochem. pref. Strong org. & microcomputer skills. Driver's lic. req. Apply ASAP. Min. Biweekly: \$557.70

## Part-Time

**SR. CIRC./RESERVE ASST., GR18 (C2509, C2512) Catherwood Libr.-S**

Set up & maintain reserve collection using in-house microcomputer-based system for record keeping; coord. w/faculty concerning reserve reading assignments; check avail. of listed materials & copyright clearance; incl. using RLIN/NOTIS terminals in searching & verification of requested publications; work at Circ. desk serving faculty & students & other patrons in checking open stack & reserve materials; open & close lib.; maintain & supv. operation of photocopy machines. Irregular hrs., wknds. & some holidays.

Req.: H.S. dip. w/some college or busn. school or equiv. Min. 1 yr. libr. work & supv. exp. Prior exp. w/IBM PC desir. Accuracy, Exc. org. & interper. skills nec. Comparable work involving serving public & dealing w/detail will be considered. Lt. typing. Min. full-time equiv.: \$487.50

**ADMIN. AIDE, GR21 (C2511) Vet. Anatomy-S**

Resp. for income & expenses on State, grant & college funds; ordering materials & processing payments; assist in development of budget, finan. reports; balance accts. 4 hrs./day.

Req.: AAS in acctg. or equiv. Min. 2-3 yrs. acctg. exp., esp. Stat. & CU purchasing. Good interper. skills. Lt. typing. Min. full-time equiv.: \$557.70

**EDITOR I (PC2425) Inst. for Comp. & Environ. Toxicology-S**

Write, edit & prep. for publication a quarterly newsletter. Prep. mailing list & coord. newsletter circ.; coord. all arrangements for annual symposium; edit & prep. transcripts of symposium proceedings for publication; oversee publication of grad. field & ICET brochures; provide support for CUPCET Committee. 20 hrs./wk.

Req.: BS in bio. sci. or equiv. Writing & editing exp. Knowl. of WP. Exc. comm. skills req. Letter, resume & 2 writing samples to Esther Smith



# Experts tell how lawns, gardens can beat the heat

Using mulches to reduce evaporation from garden soil, watering only where plants are growing instead of a whole garden and avoiding unnecessary cultivation are some of the steps home gardeners can take in combating water shortages in drought-stricken areas, according to vegetable crops specialist Roger A. Kline.

The trick is to interfere with evaporation from the soil and transpiration from the leaves of plants to cut down on water consumption, said Kline, an expert on home gardening in the College of Agriculture and Life Sciences. Kline is a senior extension associate for Cornell Cooperative Extension.

As for moisture-stressed home lawns, "leave them alone" even if lawn grasses turn brown and look dead, according to Norman W. Hummel Jr., a lawn expert and an associate professor of turfgrass science, also in the College of Agriculture and Life Sciences.

Lawn grasses suffering from moisture shortages go into dormancy to protect them-

selves against hot, dry growing conditions, Hummel explained: "The grass will bounce back quickly once the weather turns cool and rainy in early fall because it has a remarkable recuperative power. For now, it's best to let nature take its course."

Dry lawns should not be mowed as closely, either, Hummel said. Mowing height should be raised high — up to 2.5 inches — to enable the grass plant to build up extra food reserves for regrowth after a summer dormancy.

Once the grass is dormant, quit mowing or even feeding the lawn, he advised. Feeding drought-stricken lawns with fertilizers may do more harm than good because fertilizers stimulate the grass plant to send up more top growth at the expense of food reserves in root systems.

As for garden crops, Kline said the average American home garden (20 by 20 feet) requires up to 500 gallons of water a week, or about two inches of rain, when plants are large. When they are young, one inch of water a week may be sufficient, and there is

no need to water the whole garden because these plants have small root systems. Most effective are a trickle irrigation system or a soaker hose.

Also helpful are organic mulches, such as straw, lawn grass clippings, leaves, saw dust, wood chips, even discarded newspapers. Black plastic can dramatically reduce evaporation while suppressing weed growth. All mulches, including black plastic, should be preceded by a good soaking of the soil.

Light cultivation is effective in controlling unwanted weeds that compete for available moisture, but it increases water evaporation.

"A dry, crusted layer on the surface of the soil works well in holding the moisture from escaping from the soil, so don't cultivate the soil unnecessarily," Kline urged. "On the other hand, if you irrigate or expect rainfall, the soil absorbs water better if the crust of the soil is broken up or tilled lightly."

Knowing when to water is critical, too.

According to Kline, watering is a must for seeds to germinate and for young plants to get established. Transplants require water immediately after they are set out in the garden. Water also is critical when lettuce, spinach and cabbage, among other leafy crops, become large.

Fruit crops, such as tomatoes, eggplants, corn, beans, cucumbers, summer squash and melons, need plenty of water when they start blooming and while they develop fruit. But water is not needed as much when fruits are in the final stage of development and ripening.

"When tomatoes begin to turn red and mature, stop watering; withholding water at this stage will result in better tasting fruit," Kline said. "Onions require little water as their bulbs mature."

If all of these water conservation measures are used, about half of the amount of water normally needed for a garden could be saved without sacrificing yield or quality, Kline estimated.

—Yong H. Kim

## Computerized games teach serious lessons: how toxic chemicals affect the body, society

An instructional program released by Cornell environmental educators uses puzzles, games and an electronic cocktail party to teach about the effects of toxic chemicals.

It should help government officials, as well as lawyers, engineers, safety officers, journalists, labor union leaders and concerned citizens, better understand and regulate toxic chemicals, its creators say.

The self-paced instructional program, "Toxicology and Public Health: Understanding Chemical Exposure," gives users the equivalent of an intensive, three-day continuing-education course, according to its developer, Jeanne Appling.

Appling is a toxicologist in the Institute for Comparative and Environmental Toxicology here.

It covers the principles of toxicology by using, as examples, more than 200 toxic materials, from radon gas and asbestos to the pesticide aldicarb and copy machine toner powder.

Among the lessons in the software, which runs on an IBM PC/XT or compatible machine with enhanced graphics:

- A crossword puzzle that encourages people to use an easily accessible glossary with more than 160 toxicology terms.
- "Reproductive Fortune" is a television-game-show-style presentation on the effects of chemicals on the human reproductive system.
- A cocktail party in which drinks flow freely illustrates some of the body's defenses against poisoning, using the behavior of one toxicant — alcohol — in different

party-goers with different body weights.

"We have tried to present a balanced picture of the role of toxic chemicals in society," Appling said. "The program does not say we are all dying of chemicals, but it does put toxic substances in perspective. That balanced approach is the reason the program is being equally well received by people in the chemical industry and in the regulatory agencies."

Development of the program was funded by the Ford Foundation, International Business Machines Corp. and the U.S. Geologi-

**"The [new computer] program does not say we are all dying of chemicals, but it does put toxic substances in perspective."**

—Jeanne Appling

cal Survey.

The computer program uses animation, simulations and interactive exercises to explain chemicals' routes of entry into the body, as well as pharmacokinetics (the movement of chemicals into, around and out of the body), natural defense mechanisms, dose-response (including lethal doses and thresholds of response), properties that affect toxicity, health effects, and risk assessment and management:

- For users whose knowledge of human biology is sketchy, the program offers an animated anatomy and physiology review. In a colorful, cut-away view of the internal organs, users can match organ names with their locations.

- Another exercise matches populations with characteristic responses to chemicals. People with extra sensitivity to nitrates, it is discovered, have a genetic (recessive) enzyme deficiency, while female rats are more susceptible to effects of parathion because their biotransformation rate is less than that of male rats.

"This program is no substitute for a professional toxicologist," Appling said. "But it lets decision makers have more confidence in professionals, because they can ask the right questions and understand what the professionals are telling them."

Adults with at least some science background will have no difficulty using the program to increase their knowledge of toxicology, Appling said. She noted that most people holding degrees in chemistry have scant knowledge of toxicology. Much of the program is accessible to high school science students, she added.

There's also plenty of food for thought — or at least trivial conversation — at the next cocktail party. For instance, there are more than 80 different chemicals in coffee. Or, a cup of apple seeds contains enough cyanide to kill a person. (Fortunately, as the teaching program illustrates, the body can readily detoxify small amounts of cyanide.)

—Roger Segelken

### Laser *continued from page 1*

source, ultrafast processes over a much larger wavelength range can be studied," he said. "There are molecules and semiconductors that can only be studied with ultraviolet femtosecond pulses." According to Tang, the shorter-wavelengths pulses also can be focused into a far smaller area.

The light source for the Cornell apparatus was a standard device called a dye laser, which depends on an organic dye called Rhodamine 6G to produce visible laser light with wavelengths in the 630-nanometer range. The researchers were able to transform the visible laser light into ultraviolet laser light, a process called frequency doubling, by directing carefully arranged beams of the laser light into a tiny crystal of Beta-barium borate (BBO). The optical properties of BBO are such that the interaction of laser beams with the atoms of the crystal can produce output beams of shorter wavelength. Such materials are called nonlinear optical crystals.

The ability to grow high-quality BBO crystals and polish them extremely thin was the key to the achievement by Tang and his colleagues. The BBO crystals used in the experiments were only about 50 micrometers thick, about half that of a human hair.

The researchers' work was sponsored by the Joint Services Electronics Program, the Naval Research Laboratory and the National Science Foundation.

—Dennis Meredith

## New book traces history of Cornell animal science

The beginnings of animal husbandry at Cornell, one of the first subjects taught at the university, are traced in a new book by Kenneth L. Turk, professor emeritus of animal science.

"Animal husbandry at Cornell is as old as the university itself. It had its beginning when Ezra Cornell gave the new university his farm of 207 acres of land as part of his original endowment in 1866, plus \$500,000.

"It was on this farm that the college's herds of livestock were maintained," Turk says in his book, "Animal Husbandry at Cornell University: A History and Record of Development from 1868 to 1963."

But during the early years of the university, Ezra Cornell and Andrew D. White, the university's first president, would not recruit a professor of agriculture, Turk says.

"This was a time when agricultural science was largely unknown," and collegiate education was largely of the traditional classical character and had little or no relation to the skills needed

in agriculture and industries, Turk says.

It was not until 1874 that the university appointed its first professor of agriculture, Isaac P. Roberts of Iowa State College.

Roberts taught the first courses in animal husbandry and turned the university farm into a "practical laboratory" for research and teaching.

Cornell's Department of Animal Husbandry was established in 1903, and it developed into one of the leading academic units of its kind during the next 60 years under the leadership of three department heads: Henry H. Wing, Frank B. Morrison and Turk.

The name of the department was changed to the Department of Animal Science in 1966.

"Animal Husbandry at Cornell University," which was produced by the Media Services unit at Cornell, is available from the Department of Animal Science, 158 Morrison Hall.

The book is priced at \$15 per copy, which includes postage and handling.

—Yong H. Kim

## Graduate Bulletin

### Conference Travel Grants:

Available to registered graduate students to help with travel expenses for invitations to present papers at conferences. Applications due at the Graduate Fellowship and Financial Aid Office, Sage Graduate Center, by Aug. 1 for October conferences. Applications available at Graduate Field Offices and at the Fellowship and Financial Aid Office of the Graduate School. Those who have not received confirmation that their papers have been accepted may make tentative application and provide documentation as soon as it is available.

**August degree deadline:** All requirements must be completed, including submitting the dissertation/thesis to the Graduate School, by Aug. 19.

**Thesis Seminars:** 2 to 3 p.m., Mudd/Corson Hall, Robert S. Morrison Seminar Room, lower level of the atrium, July 19 for doctoral dissertations; July 20 for masters' theses. Beginning and later stages of thesis preparation will be discussed. Students, faculty and typists encouraged to attend.

### Barton Blotter

## Computer, printer, related equipment stolen from Olin

Nearly \$7,400 in computer equipment was stolen from Olin Hall in two incidents, according to the morning reports of the Department of Public Safety for June 18 through July 4.

A computer and discs were stolen from Room 167 about June 23, and a laserwriter and hard disk drive costing a total of \$5,411 were taken from Room 265 about June 29.

Other thefts on campus included five bicycles worth a total of \$500, three wallets with cash and valuables totaling \$212, furniture worth \$700 was taken from Sage House, a backpack and contents valued at \$484 was stolen from the Campus Store, and jewelry, wine and a clock worth a total of \$935 were taken from Phillips House.

There were 21 thefts in all, with losses in cash and valuables set at \$12,022.

Four persons were arrested at about 1:30 a.m. on June 18 and charged with trespassing in the Plantations.

Computerized copies of the most current daily report may be called up on CUINFO under the title SAFETY. CUINFO terminals are situated in the main lobbies of Day Hall, Gannett Clinic, and the Olin, Mann and ILR libraries.



# American Indians taught to become entrepreneurs

Four times a year, Robert Chase breaks away from his classes here to conduct one of the few teaching programs in entrepreneurship offered to American Indians who live both on and off government reservations.

His next class will be held in Phoenix, Ariz., from Oct. 24 to 27.

The average age of Chase's Indian pupils is 35, and few of them have attended college.

Indian tribes are self-governing, but they depend too much on the U.S. government's

**"Running an Indian tribe is like running a town. . . . But Indians traditionally have relied on the Bureau to provide the direction for these services rather than developing their own infrastructures. They've been under the Bureau so long that they don't realize that they can do things for themselves."**

— Robert Chase

Bureau of Indian Affairs and businesses run by non-Indians to exploit economic opportunities on their own lands, according to Chase, a professor of accounting and finance in the Hotel School.

"An example can be seen in developing timber resources. The Indians tend to ask an Anglo firm to come in and harvest tim-

ber and produce lumber, thus providing jobs for Anglo managers and workers. The tribe obtains a cash flow from the enterprise but no employment for its members," he said. "The thought of borrowing development capital does not occur to most Indians. They've been conditioned over many years to obtain a grant from the government, and they've been conditioned to believe that they cannot develop an enterprise on their own."

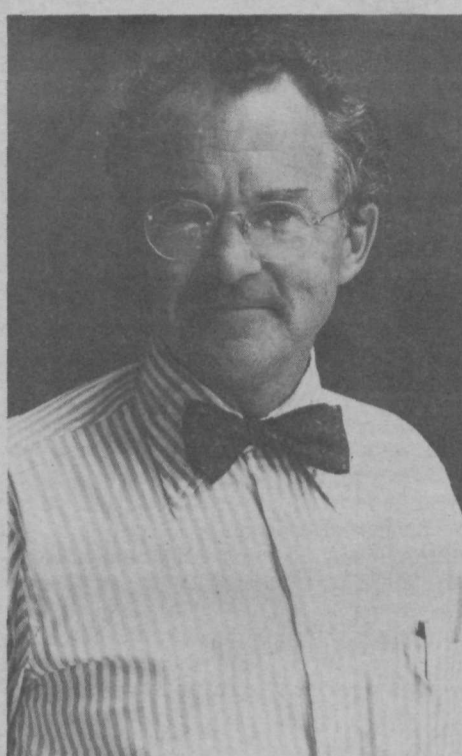
Several years ago, nine native Americans who had succeeded in their own entrepreneurial projects organized the Indian Management Association to help other Indians become self-sufficient.

"Running an Indian tribe is like running a town. They need hospitals, doctors, schools, engineers, roads, water systems and businesses. But Indians traditionally have relied on the Bureau to provide the direction for these services rather than developing their own infrastructures. They've been under the Bureau so long that they don't realize that they can do things for themselves," Chase said.

The new thrust towards Indian self-help was inspired in part by the construction of 52 hotels on Indian reservations by President Lyndon B. Johnson's administration in the 1960s. Only two of those hotels are operating today because the plan was misconceived, Chase said. Indian reservations, some of them on remote sites, do not draw enough tourists to support hotels.

In 1985, about 785,556 Indians were living on reservations in 27 states, according to the U.S. Interior Department, which operates the Bureau of Indian Affairs. Total Indian population of the United States is about 1.5 million.

John Little, a former state land commissioner in Arizona, where much of the land



Robert Chase

Jill Peltzman

is under Indian control, helps direct the Indian Management Association, and Chase is the most active member of its faculty.

Chase teaches by what he calls the deductive method. "My approach is to lead them into a subject in such a way as to inspire the students to ask questions spontaneously rather than just lecture to them," he said. "Although they lack much formal education, the Indians possess a lot of political savvy and real-world experience, far more than do my students at Cornell."

His training workshops run three-and-a-half days, for which each Indian student pays \$165. About 40 students are accepted for each class, and enrollment is about 50-50 male and female. "Women occupy an important place in Indian tribes," he said.

At the School of Hotel Administration, Chase teaches hotel and restaurant management. With his Indian students, he uses the same computer-based exercise that he designed for Cornell and that has been adopted for training by Hilton International, Inter-Continental Hotels, Holiday Inns, Westin Hotels and McDonalds.

"The management of a hotel is used as the basis for learning management concepts that can be applied to any business, because everyone is familiar with hotels and feels comfortable in discussing them," Chase said.

He pointed to businesses being developed by Indians in Washington state as examples of what he hopes his students will accomplish: a fast-food roast beef stand on the Tulalip reservation and a fish cooperative established by the Lummi tribe in Bellingham, Wash.

Chase has conducted his course for native Americans in Seattle and in three cities in Arizona: Phoenix, Tucson and Sedona.

What do the Indians think?

Chase's approach is "a particularly effective tool in educating our business council and key staff," said Larry B. Kinley, chairman of the Lummi Indian Business Council.

"Bob Chase is an exceptionally talented professor," a spokesman for the confederated Salish and Kootenai tribes said. "While he entertained us with his charismatic personality, he managed to teach us difficult management concepts and techniques. He made learning a pleasure."

— Albert E. Kaff

## 8 M.B.A. candidates working in Japan this summer

The Johnson Graduate School of Management, one of the few American graduate business schools to teach concentrated study of Japanese business methods, has sent nine students to work this summer as interns in large Japanese companies or the Japan subsidiaries of U.S. corporations.

"These students are working directly on the important trade and business issues that cloud current relationships between Japan and the United States," said James W. Schmotter, associate dean of the school. "In the long run, and perhaps in the shorter term as well, their experi-

ences will make a real and direct contribution to these issues."

The nine students are enrolled in a four-year-old program that includes regular courses for a master's degree in business administration, intensive Japanese and courses on Japanese business practices and the Japanese economy.

Schmotter said that Japanese companies demonstrated an increased interest in American M.B.A.s by accepting interns offered to them by the Johnson School.

One student intern, James Latimer, Cincinnati, Ohio, is working in the Hiroshima plant of Mitsubishi Heavy Indus-

tries. He said, "As a former engineer, I'll be able to compare Japanese manufacturing techniques in the machine tool industry to what I experienced before in my job at Cincinnati Milacron."

Sidney Bardwell, Evanston, Ill., is assigned to credit card marketing, a relatively new business in Japan, in the Tokyo office of Citibank. "The credit card market in Japan is wide open right now," he said. "I can't imagine a more exciting place for someone interested in financial services marketing to spend the summer."

With one exception, the students' summer jobs are in Tokyo, Osaka or Hi-

roshima. Mark Finn, Boise, Idaho, will work in the New York office of the Bank of Tokyo. Other students with internships in Japan are:

Stuart Shim, Huntington Beach, Calif., at Sony Corp.; Susanne Hoser from West Germany, at Mobil Oil Corp.; Dan Scholnick, Julian, Calif., at Chase Manhattan Bank; John Huber, Buffalo, N.Y., at Nippon Telegraph & Telephone Co.; Andrew Leong, Foster City, Calif., at Mitsubishi Chemical Industries; and Brian Jackson, Patterson, N.Y., at Schering-Plough Pharmaceuticals.

— Albert E. Kaff

## Forum evaluates university's progress in recycling

Can staff, faculty and students change their habits and learn to recycle waste materials as if by instinct?

Campus and city officials hope so, because recycling will be mandatory in New York State four years from now.

"Recycling must be so invisible that it will be as easy as discarding paper in the wastepaper basket. If we have to make it mandatory, I think we've missed the boat," Harold D. Craft Jr., associate vice president for facilities and business operations, told a forum on recycling on June 23.

While the university has supported a limited program of paper recycling since the early 1970s, it is moving toward a more comprehensive resource conservation program for several reasons:

- By 1992, state law will require recycling where "economically feasible," that is, wherever the cost of recycling is the same or less than incineration, landfill dumping or other means of disposal, according to Ellen Harrison, outreach coordinator of the Cornell-based Waste Management Institute.

- Tompkins County will begin full-scale recycling in the fall of 1990, according to Barbara Eckstrom, solid-waste manager for the county. So far, Cornell has escaped the City of Ithaca's mandatory recycling law because campus trash is hauled by private contractors rather than by public works crews.

But when Cornell's trash goes to the new county landfill — part of a waste management program that may cost local tax-

payers as much as \$14 million — reusable materials will waste valuable space. "We're going to have a very expensive hole in the ground," Frank Proto, chairman of the county Board of Representatives' Solid Waste Management Committee, told the forum in Goldwin Smith Hall. "Why should we fill [the new landfill] with recyclables?"

Cornell generates about 11 percent of the county's 170 tons of trash per day, Proto said. Some 40 percent (by weight) of county trash is paper, more than 20 percent is leaves and other biodegradable yard

**"Recycling must be so invisible that it will be as easy as discarding paper in the waste paper basket. If we have to make it mandatory, I think we've missed the boat."**

— Harold D. Craft Jr.

waste, 5.5 percent is glass and 7.5 percent is plastics, the committee chairman said. Removing those materials from the so-called waste stream could extend the landfill's life by 20 years, Proto asserted.

"There is a lot of interest in a voluntary recycling program at Cornell," said Tracy Frisch, a graduate student and a founder of the ad hoc group of staff, faculty and stu-

dents called Waste Watchers. "Recycling is not working the way it is supposed to," she said. She claimed that only about 1 percent of Cornell trash is recycled and that an earlier program to recycle materials from dormitories has collapsed altogether.

"Waste Watchers is pleased to say the university has moved [to rectify recycling shortcomings] by giving the Facilities Engineering Department more resources than had been put into recycling," Frisch said.

President Frank H.T. Rhodes last year established a recycling task force that implemented a pilot program in Day Hall. This spring, facilities was given the job of determining the mechanics and economics of campuswide recycling.

Robert C. Osborne, assistant superintendent for buildings care, is in charge of planning the facilities department's resource conservation program.

In the Division of Campus Life, which assumed responsibility for the recycling effort recommended 15 years ago by the University Senate, executive staff assistant Georgina Eisenmann is the recycling coordinator. "The public is demanding that recycling be implemented," said the Waste Management Institute's Harrison. That institute will study alternative means of trash disposal and is expected to focus attention on Cornell as a model for responsible waste management.

Cornell is likely to be compared to schools such as Rutgers, the State University of New Jersey with campuses in two counties, where recycling is promoted

heavily. The voluntary recycling program at Rutgers this year will divert at least 35 percent of campus trash to recycling, composting and — in the case of food garbage — hog farms, while avoiding about \$84,000 in landfill fees.

"Recycling is mandatory, by state law, but at Rutgers we have no means of enforcement," said Ray Ching, recycling coordinator at Rutgers.

"We depend on peer pressure and concern for the environment. Education is the key. We try to instill the ecological ethic in our faculty and students," he said, noting that the Rutgers recycling effort has received "little encouragement from top-level management" at the university.

Cornell's limited recycling effort is showing "steady growth," according to William D. Gurowitz, vice president for campus affairs. From 50 tons of recycled paper and other material in 1986 and 84 tons in 1987, the university is expected to send about 120 tons to be reused this year, he said. Local scrap dealers estimate that as much as 40 percent of the university's refuse could be recycled. About five percent is recycled now, according to university figures.

All parts of the university's waste stream are under consideration, including making greater use of recyclable containers in operations such as dining, and separation of cans and glass containers, white and colored paper, and cardboard, according to Craft.

— Roger Segelken