February 22, 1990

Recording nature

Designing artificial joints

Cornell **Employment News** inside

# IBM provides \$19 million supercomputer upgrade

In a \$19 million upgrade provided by International Business Machines Corp., the Theory Center's two IBM supercomputers will be transformed into the latest top-ofthe-line machines, together capable of more than 1.6 billion floating point operations per second, or gigaflops.

Volume 21 Number 22

In the upgrade, part of a Theory Center/ IBM Supercomputing Joint Study, the current IBM 3090-600E's will be upgraded to 3090-600J's, an advanced version of the supercomputer first announced by IBM last

The 600J machines will each have from 25 to 50 percent more performance than the

current 600E models for most users, increasing each computer's peak computing speed from 696 million floating point operations per second (megaflops) to 827.6 megaflops.

The upgrades will take place Feb. 23 through 25 for one of the machines and March 9 through 11 for the other.

"We're extremely grateful for this rapid upgrade by IBM to its latest and most powerful model of supercomputer," Theory Center Director Malvin Kalos said.

This substantial upgrade demonstrates the commitment of both Cornell and IBM to continuing the Joint Study and maintaining the Theory Center as a leading national supercomputer center," he said.

"The increased performance will enable the Cornell National Supercomputer Facility better to meet an extraordinary demand for supercomputing for projects throughout the range of science and technology.

The CNSF is the Theory Center unit that manages the supercomputer system and provides access to researchers.

"The current machines are effectively saturated, and the substantial performance increase with the enhancements will allow us to serve better the approximately 2,100 researchers now using the machines," Kalos

"The upgrades involve replacing the existing technology with faster computer processors and more memory capacity," said Gordon Wright, manager of the IBM Supercomputing Technology Center here, who is overseeing the upgrade for IBM.

For example, the "cycle time" required to carry out a computer instruction will be reduced from 17.2 nanoseconds (billionths of a second) to 14.5 nanoseconds, he said.

The "real memory" of each machine will be increased from 256 megabytes to 512 megabytes.

- Dennis Meredith

## **EarthYear** aims to raise ecological concerns

A year-long effort to raise the public consciousness about environmental issues is drawing on the varied resources of the university - from biologists, sociologists and business administrators to lawyers, artists and educators.

The program is promoting special events that mark the 20 years since the first Earth Day in 1970, while also highlighting ongoing environment-related ac-

Operating under the banner "EarthYear 1990 at Cornell: Call to Consciousness and Action," the program is based in the Cornell Center for Environmental Research (CER).

Lectures, conferences and seminars, art exhibits and performances are planned throughout the year, although much of the Cornell activity is centered around EarthRise, the April 22 anniversary of Earth Day.

'Cornell is in a position to provide our society and environment, and in the search for creative solutions," said Senior Provost Robert Barker.

"With a strong foundation in environmental research and teaching, Cornell has an excellent balance between policy studies in science and basic research, added Barker, whose office funded part of the planning of EarthYear 1990.

"The combination of colleges, schools, departments, institutes and pro-





Participants take their places on a map of the world to play "World Game," a simulation exercise patterned after military war games, on Feb. 16 in Willard Straight Hall. The game was the kick-off event for Cornell EarthYear 1990, the university's continuing observance of the 20th anniversary of Earth Day.

grams within this university provides the scope and depth necessary to address both social and scientific issues," said David L. Call, dean of the College of Agricultural and Life Sciences, another sponsor of EarthYear 1990.

"Cornell's reputation among other universities, industry and government means the choice to focus on environmental issues will send an influential message to many sectors of American society: Now is the time to address environmental problems."

"When we began planning the 1990 program, we found a lot was already going on," said Robin Tait, program coordinator for Earth Year 1990 here.

She pointed to the ongoing research, analysis and education activities of resources such as the Plantations, the Center for Environmental Research, the Department of Natural Resources, the Laboratory of Ornithology and the independent Boyce Thompson Institute for Plant

'Then the advisory committee for EarthYear widened its scope to realize that virtually every discipline within a university is touched by environmental issues and has something to contribute," Tait observed.

In addition to programs planned by the more traditionally environment-related groups and special activities scheduled on or around Earth Day (April 22), the EarthYear 1990 committee is examining the potential for programs by other university units.

"Perhaps the Johnson Graduate School of Management can put together a panel on the impact of environmental issues on business," EarthYear Coordinator Tait

"Students in the Environmental Law Society may be able to arrange internships with regional governments or provide legal research help for non-profit organizations. The experts in plant pathology and plant biology can address the issue of pesticides in the environment."

Other activities in the planning stage include exhibits of naturalists' art, a writers' conference on environmental topics and shows in the Center for Theatre Arts. The American Indian Program is considering a conference on minority issues and the environment, and the School of Hotel Administration is in a good position to examine the role of recycling in waste management, Tait noted.

To make certain that information gen-Continued on page 8

## Scholars ask if Soviets will abide by laws after reforms

A KGB agent picked up a dissident one day several years ago to hold a "pre-arrest chat."

"We know about your criminal activities," the agent said. "We haven't arrested you yet for specific reasons. [He was the relative of a well-known man and his arrest would spark publicity.] But we want to warn you." The dissident was told that, unless he stopped speaking out illegally, he would be thrown in prison.

'But I don't agree I was violating the law. My right to speak is specifically guaranteed under Article 25 of the constitution,"

the dissident replied.
"Please," the KGB agent sighed, "we're having a serious conversation.

Before perestroika, law on the books was just not the same as law in action, said Leon Lipson, the H.R. Luce Professor of Jurisprudence at Yale University. He told this story last weekend during his keynote speech at the Law School symposium, "Perspectives on Legal Perestroika: Soviet Constitutional and Legislative Changes."

But how likely will the Soviets be to abide by the law if they approve legal perestroika, proposed changes to the constitution to parallel the ideas and policies of social and economic perestroika? How likely are they even to codify perestroika as law? And what are the prospects for the law as it now lags behind democracy on the streets?

These were some of the issues addressed by 10 Soviet scholars at the symposium on Feb. 16 and 17, organized by the studentrun International Law Journal. Among the participants were Myron Rush, a Cornell professor of government who served as moderator during a round-table discussion; Herbert Hausmaninger, a University of Vienna Law School professor now a visiting professor at Cornell; and Olga Dzhujeva, a Moscow State University Law School professor now studying at Cornell.

Many of the changes in the Soviet Union during the past five years have been greeted enthusiastically in the West, said Robert Sharlet, a Union College political science

"But as welcome as these gestures were, they were policy changes. How do we

Continued on page 8

## The Book of Kels



Rollin H. McCarthy (center), 91, a member of the Class of 1922, holds a \$10,000 facsimile of the national book of Ireland, "The Book of Kels," which he and his wife, Clara '22, have donated to the university. The Book of Kels is an elaborate presentation the New Testament Gospels created by Irish monks in the year 800. With McCarthy is James Jay John (far left), professor of paleography and medieval history, and Roy Wright, a lecturer in the American Indian Program.

## Johnstone: SUNY, Cornell strengthen one another

The State University of New York and Cornell's state-related units enhance one another, SUNY Chancellor D. Bruce Johnstone told the Cornell Club of the Greater Capital District on Feb. 16.

At a luncheon meeting of the alumni group in Albany, Johnstone also said that the cost of higher education is increasing only at about the same rate as families' resources, but that the increase still leaves the public with negative feelings.

In discussing the SUNY-Cornell connection, Johnstone explained that the relevant statutes talk about SUNY exercising "general supervision and control" over the fourstate related units at Cornell — the College of Agriculture and Life Sciences, College of Human Ecology, School of Industrial and Labor Relations and College of Veterinary Medicine. Actually, there is only "a kind of overarching, if distant," supervision that is "benign, very light-handed," he asserted.

The relationship between SUNY and the Cornell units "is essentially a good one," Johnstone continued. "I'm pleased and proud to claim these units . . . and know they are magnificently governed by the Cornell faculty, administration and trustees."

He said that the bottom line of the rela-

tionship "is that Cornell is enhanced by a strong state university as a whole . . . and SUNY is enhanced by a strong Cornell."

The cost of education was one of the main topics covered during a question-andanswer period following Johnstone's remarks. He was asked by Paul Curry, a 1960 ILR graduate, whether middle Americans would "get costed out of higher education."

Middle Americans may feel that putting a child through Cornell is a little more of a strain than 20 years ago, but only a little more, and the university is better now, Johnstone replied. He said the cost of higher education will keep increasing in general "at the level of family means," but that the cost for "the top schools" will outpace family resources.

He warned the Cornell alumni that he sees public hostility to the cost of higher education in New York state, especially to the cost of an education at Cornell. He noted that, because the rate of inflation reflects the average of a range of prices, half of those price increases are above the rate of inflation, and "it's no surprise" that the cost of higher education is among those costs that rise faster than the rate of inflation.

-Barry Gross

## **BRIEFS**

- Women's issues: Those interested in women's issues are invited to attend the Women's Studies Program Spring 1990 Cafe to get acquainted with others and talk about areas of concern. The cafe meetings will be held in the Statler Hotel's faculty lounge from 4:30 to 6 p.m. on Fridays, Feb. 23, March 9 and 30, and April 13 and 27.
- Library fines: For the first time in 20 years, Cornell Libraries is raising its overdue and recall fines. The daily fine for overdue books has been raised from 10 cents to 25 cents, and it will increase by 25 cents in each of the next three semesters to a level of \$1 in August 1991. The daily fine for recalled material will rise until it reaches \$2.
- Garbage tags: City of Ithaca garbage tags at 12 for \$10 are on sale at the Service Center situated near the east entrance to the campus store.
- Goethe Prize: April 16 is the deadline for entering the 1990 Goethe Prize competition worth up to \$250 for the best essay in either German or English on any topic connected with German literature. More details on the

competition, open to junior, senior and graduate students, is available from Professor Geoffrey Waite, 192 Goldwin Smith Hall, telephone 255-3394, or in Room 185 Goldwin Smith Hall, telephone 255-7670.

- Brown awards: March 30 is the deadline for submitting applications for Beatrice Brown Awards, worth up to \$250, to the Women's Studies Program office at 332 Uris Hall. The awards are available to graduate students working on some aspect of women and gender. Details are available from the Women's Studies Program, telephone 255-6480.
- Breakfast with Rhodes: A number of openings are available for students to have breakfast with President Frank H.T. Rhodes. Those interested are invited to call his office at 255-5201 to make a reservation.
- Breakfast with Morley: Senior Vice President James E. Morley Jr. will be the host for regularly scheduled breakfasts for employees through May. To sign up for a breakfast, call the Office of Human Resources at 255-3621.

## Health-benefits arbitration halted

Arbitration requested by United Auto Workers Local 2300 over revisions to health-care plans at Cornell has been halted, according to Thomas M. Santoro, associate university counsel.

A Feb. 15 order signed by New York Supreme Court Justice Robert S. Rose prohibits further arbitration until a lawsuit filed by the university against the UAW seeking to stop arbitration is adjudicated, he said.

Last fall, Cornell announced an increase in employee contributions for health-care benefits for staff in the privately supported

The UAW, which represents about 900 employees, claimed that it should have been substantively involved in altering the plans and was not, and the union filed a grievance challenging the benefits change.

University officials responded that they are required only to notify the union of the change and that they had done so.

Employee contributions for Option One coverage, which pays 100 percent of many health expenses, increased by 8 percent; employee contributions for Option Two coverage, which requires more employee cost-sharing for many health services but has an out-of-pocket maximum for large medical expenses, rose by 2 percent.

Medical inflation is expected to run between 17 and 25 percent, according to Marilyn Paluba, associate director of the Office of Human Resources.

## GRADUATE BULLETIN

Dissertation and thesis seminars will be held in the Morison Seminar Room, Corson/Mudd Hall, Monday, Feb. 26, from 11 a.m. to noon for doctoral dissertations and 1:30 p.m. to 2:30 p.m. for master's theses.

Foreign language fellowships: Western Societies Program Foreign Language and Area Studies Fellowships are available for European languages and Turkish for summer 1990. Application forms are available at 130 Uris Hall; deadline is March 1.

Course changes: The last day for dropping courses and changing grade options without a petition is March 16.

Income Tax: Representatives from the federal and New York state tax bureaus will conduct sessions for international students and answer questions on Wednesday, March 7, from 1 to 2:45 p.m., and on Thursday, April 5, from 8:30 to 10:15 a.m., in the second-floor auditorium, Anabel Taylor Hall.

Election: Voting in student trustee and assembly elections will be held March 6 through 8 at The Henry and other campus sites from noon to 4 p.m. Referenda include establishing a separate graduate and professional student assembly.

## BARTON BLOTTER

Two thefts of a combined \$7,380 in jewelry were among 21 thefts with losses of \$10,742 in cash and valuables reported on campus, according to the morning reports of the Department of Public Safety for Feb. 12

Other thefts included a 1987 Volkswagen worth \$825 taken from the Pleasant Grove Apartments, three vacuum cleaners worth \$1,020 stolen from janitor closets in East Roberts Hall and Academic I; and \$500 in cash thefts from seven wallets and a backpack at various sites on campus.

An Ithaca College student was charged with possessing an altered driver's license. Safety officials are investigating an incident at University Hall No. 3 in which an underage female was found intoxicated about 2:15 a.m. She was treated at Tompkins Community Hospital and released.

Computerized copies of the most current safety report may be called up on CUINFO under the title SAFETY. CUINFO terminals are situated in the main lobbies of Day Hall, Gannett Clinic, Willard Straight Hall, Sage Hall (Graduate Student Lounge) and eight libraries.

## CORNELL CHRONICLE

EDITOR: Mark Eyerly GRAPHICS: Cindy Thiel CIRCULATION: Joanne Hanavan

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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. Sexual hassment is an act of discrimination and, as such, will not be tolerated. Inquiries concerning the application of Title IX may be referred to Cornell's Title IX Coordinator (Coordinator of Women's Services) at the Office of Equal Opportunity at 234 Day Hall, Cornell University, Ithaca, N.Y. 14853-2801 - telephone (607) 255-3976.

Cornell University is committed to assisting those handicapped students who have special needs. A brochure describing services for the handicapped student may be obtained by writing to the Office of Equal Opportunity, 234 Day Hall, Cornell University, Ithaca, N.Y. 14853-2801. Other questions or requests for

special assistance may be directed to that Office.

## **OBITUARIES**

Sedgewick E. Smith, professor emeritus of animal husbandry and a member of the Cornell faculty from 1942 until his retirement in 1977, died Feb. 11. He was 75.

Smith worked for the U.S. Department of Agriculture and Animal Husbandry and was an animal physiologist with the U.S. Plant, Soils and Nutrition Laboratory.

Smith earned a B.S. degree at Pennsylvania State University in 1935 and received a Ph.D. from Cornell in 1939.

Surviving are his mother, Annie Lothes Smith, of Ridgeway, Pa.; his wife, Margaret G. Smith, at home; two sons, Edward J. Smith and Mark F. Smith, both of Ithaca; a daughter, Eileen S. Kinsey, of Flanders, N.J.; two grandchildren and three sisters.

Richard H. Comstock, a retired U.S. Army colonel and head of the ROTC program here from 1954 to 1957, died Feb. 7.

Comstock, who earned a law degree at St. Lawrence University in 1929, retired from the Army in 1961 after 30 years service. He then joined the Office of University Development at Cornell and was executive director of the 1965 Cornell Centennial Celebration. He also worked at Ithaca College as director of Estate Affairs and until last year was assistant executive director of Tompkins County Chamber of Commerce.

Surviving are his wife, Alice C. Comstock, of Ithaca; a son, Richard H. Comstock, of Chappequa; two grandchildren and a brother.

## Nature's noises

## World's largest wildlife sounds archive is used by scientists and film makers

When conservationists wanted to attract dark-rumped petrels of the Galapagos Islands to breed in former nesting sites, they called Cornell's Library of Natural Sounds.

So did the manufacturers of Kiwi shoe polish, when they sought the sound of their namesake bird, and the producers of the movie "Dead Poets Society," in which the honking of Canada geese evokes a feeling

Those requests for recorded animal noises were among more than 2,500 filled each year by the world's largest archive of wildlife sounds. With its collection of nearly 70,000 items growing by 3,000 to 4,000 a year, the Library of Natural Sounds last year celebrated 60 years of scientifically accurate bird-song recording.



Charles Harrington

Greg Budney uses part of the 40-deck dubbing system to make cassette recordings of sounds on file.

It all started at the movies. In 1929, when Fox-Case Movietone Corp. wanted the sound of a song sparrow for a newsreel, they called on Arthur A. Allen, who was known as one of the foremost ornithologists of the time and who was the first professor of ornithology in the United States. Allen agreed to help, but balked at bringing birds into the Fox studio. He believed that birds should be recorded in their natural habitat.

So a Fox motion picture crew traveled to the southern shore of Cayuga Lake. Using the sound track on the edge of motion picture film, they recorded a house wren, a rose-breasted grosbeak and a song sparrow. The very first bird recordings, which were made on unstable, nitrate film, were lost to history when the film had to be disposed of. However, a copy of the recording of a rosebreasted grosbeak made on safety film survived; it now represents one of approximately 4,600 different bird species at the

"We never know how the recordings will be used - for bioacoustical analysis in the study of animal behavior, for example, or for something as 'frivolous' as a television commercial - so we treat each sound as a piece of scientific data," said Gregory Budney, director of the Library of Natural

Budney, a biologist and nine-year veteran of animal-sound recording, led a tour of the library's newly enlarged quarters, adjacent to the Laboratory of Ornithology in the Sapsucker Woods nature preserve.

In one cavernous temperature- and humidity-controlled room are row after row of tape recordings. Some common birds are represented by dozens of sounds. There are warblers chirping, whistling, buzzing, trilling, seeking a mate and warning off enemies. Extremely rare birds left only a few sounds. The dusky seaside sparrow, whose last known representatives perished last year, lives on in magnetic tape in the Library of Natural Sounds.

Some sounds from the library are not what they appear to be. The maniacal cackling noise, which could come from a monkey in "Raiders of the Lost Ark," is actually the call of the Australian bird, the kookaburra, lent to Lucas Films by Cornell. And the signature sound of of Big Bird on "Sesame Street" is actually a house sparrow from the library.

As fast as the library's staff of eight can catalog and re-record sounds in the standard 15-inches-per-second format, associates of the library capture and send in more. The collection is strongest in the birds of North, Central and South America. It also has amphibians, reptiles, mammals, birds and insects. There are frogs of the Amazon, mountain gorillas of East Africa, wolves of Washington, caribou of Canada's Northwest Territory, penguins of Antarctica and musk ox of the Arctic tundra.

While much of the library was collected by professional ornithologists, it continues to grow with the contributions of "amateur" wildlife sound recordists, Budney said.

"Our library associates are not really amateurs, except in the sense that wildlife sound recording is a hobby for most of them as they travel around the world," he noted. "Any good birder can get close to a bird, but it takes an expert to get the best possible performance from the recording equipment. It's sometimes easier to record grand opera than a bird in the rain forest. An opera singer stands in one place and produces sound — for hours. A bird sound may last a fraction of a second — then the source moves somewhere else."

To train wildlife sound recordists, the Library of Natural Sounds conducts summer workshops, usually in California's Sierra Nevada. There, budding wildlife recordists learn to use the specialized tools such as the 'shotgun' microphone, which gathers a variety of sounds the human ear might miss, and the parabolic reflector microphone, which can pick a desired sound out of the surrounding racket. They are taught to match microphones to recorders and to control input levels. And they develop the twin attributes of a successful wildlife recordist: vigilance and patience.

The worldwide network of skilled amaers is particularly valuable v tists needs sounds that are not already in the library, Budney added. The library spreads the word that certain recordings are needed, and the field recordists go to work, collect-



Greg Budney records a bird's song for the Library of Natural Sounds.

ing high-quality data that otherwise might be not be accessible to the scientist.

"A researcher can obtain much more data with the help of volunteer recordists than by working alone," Budney explained. "And the volunteers can participate in professional work that may yield answers to important questions about why birds do what they do.'

Other uses of animal sounds include taxonomic classification of species, population studies, conservation and pest control, the library director said. A bird's call is one of the characteristics that distinguishes one species from another, Budney noted.

"Analyzing birds' sounds can help in systematic studies — that is, understanding evolutionary relationships among birds," said Theodore A. Parker III, a Louisiana State University ornithologist who has contributed more than 8,000 recordings to the library. Ornithologists planning to count birds concealed in dense foliage sometimes ask for recordings to train their ears.

Luring rare birds to former nesting sites with recorded mating calls is fair play, Budney said, and the library usually fills such requests in the name of conservation. But providing recordings of distress calls to scare away pests of the same species is more controversial — and doesn't fool birds for long - so the library is reluctant to get involved with pest requests. One they did

fill was for the sounds of the house finches, which were destroying grape crops in Cali-

Like any archive of rare material, the Library of Natural Sounds does not lend out its originals - only copies. It also produces commercial recordings on tape cassettes, using a 40-deck real-time dubbing facility. One of the current best sellers is "Voices of the Peruvian Rainforest."

Library of Natural Sounds recordings provide some of the realism in a Smithsonian Institution exhibit, "Tropical Rainforests: A Disappearing Treasure," which is touring the country (the exhibit opens at New York City's American Museum of Natural History in February 1991).

Even as items in the collection find new uses, a sense of urgency drives the collectors: The library's collections represent only about half the known species of birds, and many of those are struggling to survive in threatened habitats. One such is the ivorybilled woodpecker, a bird that for a time was believed to be extinct. Before ornithologists sought — and rediscovered — a race of ivory bills in Cuba in 1986, they needed to train their ears with recordings of a bird that hadn't been heard in decades.

Fortunately, Cornell's Arthur A. Allen and Peter Paul Kellogg had recorded ivorybilled woodpeckers in Louisiana in 1935.

-Roger Segelken

## Birds star in new radio show

Not-so-loving love birds, the world's ugliest bird, a frequent flier that's never bought a ticket and the bird that is the real harbinger of spring are among the characters on a new radio show from the Laboratory of Ornithology.

"Birdwatch" is a 90-second daily program that is produced and syndicated by Finger Lakes Productions of Ithaca to AM and FM stations throughout the United States. The Laboratory of Ornithology, with its Library of Natural Sounds and staff of 15 researchers, is the program's source for special effects and scientific expertise.

"Each program is built around a little-known fact about birds," explained Todd Culver, an education specialist at the laboratory and one of the scientists responsible for coming up with 260 topics a year. The stars of "Birdwatch" programs include:

· Love birds, the small parrots often purchased in pairs for their sweet, cheery calls. When love birds engage in ritualistic fighting, they fence with their beaks, each trying to nip the other in the toe.

• The South American hoatzin, reputed to be the ugliest bird, with its blue facial skin, stout legs and red, black and white wings that barely keep it aloft. · Arctic terns, whose migratory flights between the Antarctic and the Arctic take

them on 20,000-mile round trips. • Great horned owls, the earliest singers of the year, whose "Hoo, hoo-oo, hoo, hoo" makes them the true harbingers of spring.

-Roger Segelken

## CU, Historic Ithaca agree on proposal to preserve Arts Quad

Cornell is joining the leading local preservation group in support of historic-district designation for part of its central campus.

The university and Historic Ithaca have drafted a proposal that includes creation of an historic district for state and federal registers and have invited the New York State Office of Parks, Recreation and Historic Preservation to join them in the plan.

In a Feb. 16 letter inviting the state office's review, Barbara Ebert, executive director of Historic Ithaca, said the cooperation between Cornell and her organization should enable the state to participate in what "appears to be an admirable opportunity to work with Cornell University on the designation of its historic resources." She added that the state's involvement in developing a plan "could prove a major stepping stone toward future cooperation."

Last fall, Historic Ithaca had proposed to the state a more comprehensive district for

campus. After Cornell officials expressed some concern, Stuart Stein, a Cornell planning professor who is involved with preservation issues and who chairs the state Board of Historic Preservation, arranged for Ebert to meet with John F. Burness, Cornell's vice president for university relations. It was agreed that Cornell and Historic Ithaca would seek to develop a joint proposal.

The Cornell Board of Trustees' Buildings and Properties Committee authorized engaging local architect George Hascup as a consultant, and he began discussions with Ebert in early January. At a meeting today of Ithaca's Landmarks Preservation Commission, Hascup will report on the proposal agreed on by Cornell and Historic Ithaca.

Hascup, a Cornell architecture professor who has served on the landmarks commission, said his designs for buildings must respect historical context.

In asking state help, Hascup and Ebert

envisioned a three-phase process. In their draft plan, the first phase would designate an Arts Quadrangle district, with the exception of Olin Library, which would be considered a "noncontributing building." Second would be designating the "red brick group" - including Sage Chapel, Sage Hall and Barnes Hall - as historic buildings, although not as a district. Another centralcampus red brick building, the A.D. White House, already is on the National Register. The third phase would confer historic-building status on the "collegiate Gothic stone group," including the Law School, Anabel Taylor Hall, Willard Straight Hall and the War Memorial and Baker Halls.

The Cornell/Historic Ithaca draft proposes a district only slightly different from that scheduled for review by the Landmarks Preservation Commission today. The commission's recommendation will be forwarded to the city of Ithaca's Common Council Planning and Review Subcommittee and then to Council. These reviews would determine whether a separate, local historic district should be created in addition to the proposed state and federal ones.

"We're delighted that Professor Hascup and Historic Ithaca have worked effectively to define common goals and a plan for preservation of the Arts Quad and other historic buildings on the central campus," Cornell Provost Malden C. Nesheim said.

"Preservation of the Arts Quad has long been a major priority of our Board of Trustees. Cornell is a dynamic institution, and we want to ensure that its fundamental academic needs today and in the future can evolve in these historic structures," Nesheim added. "This new spirit of cooperation with Historic Ithaca can only benefit our preservation efforts and contribute to our overall planning for the campus."

# CALENDAR

All items for the calendar should be submitted (typewritten, double spaced) by campus mail, U.S. mail or in person to Joanne Hanavan, 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 International Folkdancers

All events are open to the Cornell Community and general public. Admission is free, un-less stated otherwise. For further information, call 257-3156.

A workshop of Hungarian Folkdances, taught by Andor Czompo, Feb. 25, 7:30 to 10:30 p.m., Memorial Room, Willard Straight Hall. Supervised children are welcome. For more information call 257-3156. The Folkdance Party of Peruvian dancing scheduled for Feb. 25, has been postponed to March 4.

#### Israeli Folkdancing

Israeli Folkdancing, Thursdays, 8:30 p.m., Edwards Room, Anabel Taylor 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. Telephone: 255-



The lithograph "Hot" on view in "Robert Cottingham: A Print Retrospective, 1972-1986," an exhibition at the Johnson Art Museum through March 7.

"Robert Cottingham: A Print Retrospective, 1972-1986," an exhibition featuring more than 50 prints focusing on Cottingham as a print maker, through March 7.

"Vanishing Presence," an exhibition examining blurred and out-of-focus effects in the work of 12 contemporary photographers from the United States and Europe, through March

A bus trip to the Museum of Fine Arts in Boston for the exhibition "Monet in the '90s: The Series Paintings," March 10 and 11. For reservations and questions contact the community relations department, 255-6464.

"Spin a Tale, Make a Puppet, All About a Piece of Art," an Eye Opener Workshop for children, March 3 and March 10. The workshop will be offered for children ages 5 and 6 from 10 a.m. to noon and for ages 7 and 8 from 1 to 3 p.m. Preregistration is required by Feb. 23. A fee of \$10 for members (\$11 for non-members) will be charged. To register and for more information, contact the Education Department at 255-6464.

#### Center for Jewish Living

"Escape to Hollywood: Emigre Film Makers from Nazi Germany," an exhibit organized by the German Film Museum of Frankfort, through March 16, 1 to 5 p.m. daily except Saturday and Jewish holidays, Center for Jewish Living, 106

#### Hartell Gallery

Department of Architecture, through March The gallery is in Sibley Dome and is open Monday through Friday, 8 a.m. to 5 p.m.

## Tjaden Gallery

CCPA Individual Grant Exhibition, Jim Biglan, through Feb. 24; CCPA Individual Grant Exhibition, Elizabeth Abeson, Feb. 26 through March 3. The gallery is in Tjaden Hall.

## **FILMS**

Films listed below are sponsored by Cornell Cinema unless otherwise noted. Most Cinema films cost \$3, except for weekend films in Uris and Statler, which are \$4, and are open to the public unless otherwise stated. An (\*) means admission is charged.

#### Thursday, 2/22

"Shri Ram Slays Rakshasa," part of the video saga "Ramayan," an Indian epic, co-sponsored by the South Asia Program and Cornell University Libraries, 7:30 p.m., 310 Uris Library.

"Six in Paris" (1965), directed by Jean Rouch, Jean Douchet, Eric Rohmer, Jean-Luc Godard, Claude Chabrol, Jean-Daniel Pollet, with Barbara Wilkind, Nadine Ballot and Micheline Dax, 7:30 p.m., Uris.

"Penn and Teller Get Killed" (1989), directed Arthur Penn, with Penn Jillette, Teller and Caitlin Clarke, 7:30 p.m., Willard Straight.\*

"Look Who's Talking" (1989), directed by Amy Heckerling, with John Travolta and Kirstie Alley, 9:45 p.m., Willard Straight.\*

"Santa Sangre" (1989), directed by Alexandro Jodorowsky, with Axel Jodorowsky, Blanca Guerra and Guy Stockwell, 7 p.m., Willard

"Look Who's Talking," 7:30 p.m., Uris.\* "Santa Sangre," 9:30 p.m., Willard Straight.\* "Drugstore Cowboy" (1989), directed by Gus

Van Sant, Jr., with Matta Dillon, Kelly Lynch and William S. Burroughs, 9:45 p.m, Uris.\* "Penn and Teller Get Killed," midnight, Wil-

## Saturday, 2/24

"The Summer of the Colt" (1988), directed by Andre Melancon, filmed in Spanish, dubbed in English, co-sponsored by the Ithaca Youth Bu reau, shown with the short "Zea," 2 p.m., Willard Straight.\* (\$1.50 for children under 12).

'Kagaz Ke Phool, directed by Guru Dutt, with Guru Dutt and Waheeda Rehman, 3:15 p.m., 302 Uris Library.

"Drugstore Cowboy," 7:30 p.m., Uris.\*
"Santa Sangre," 7:30 p.m., Willard Straight.\*
"Look Who's Talking," 9:55 p.m., Uris.\*

"Santa Sangre," 10 p.m., Willard Straight.\*

## Sunday, 2/25

"A Spy in the House of Love," "Wake Up Call," "Tongues Untied," "Song From an Angel," "Site Film," and "She Bop," Black Maria Film Festival, with guest festival director John Columbus, 2 p.m., Johnson Museum.

"Shri Ram Meets Sugriv," and "Shri Ram and Sugriv Swear Eternal Friendship," part of the video saga "Ramayan," an Indian epic, co-sponsored by the South Asia Program and Cornell University Libraries, 3:30 p.m., 310 Uris Li-

"Santa Sangre," 4:30 p.m., Willard Straight.\*
"The Reckless Moment" (1949), directed by Max Ophuls, with James Mason and Joan Bennett, 8 p.m., Willard Straight.\*



A scene from "Santa Sangre," directed by Alexandro Jodorowsky and starring Axel Jodorowsky, Blanca Guerra and Guy Stockwell, showing Feb. 23 through Feb. 28, in Willard Straight Theater.

#### Monday, 2/26

"Amarcord" (1974), directed by Federico Fellini, with Magali Noel, Bruno Zanin and Pupella Maggio, 7 p.m., Willard Straight.\*

"Santa Sangre," 9:50 p.m., Willard Straight.\*

#### Tuesday, 2/27

'Metos Jah Hut" (1987), "Harunoo" (1958), and "Nomads of the Jungle" (1947), sponsored by the Southeast Asia Film Series, 4:30 p.m.,

310 Uris Library.
New Films From NYU and USC, "Dinner of Cruelty," with guest director Nick Nicastro and "The Eternal Pitch," with guest director Todd Yan, co-sponsored by Theatre Arts Film Program, 7:15 p.m., Willard Straight.\*

"Santa Sangre," 10 p.m., Willard Straight.\*

## Wednesday, 2/28

"The Water Magician," directed by Kenji Mizoguchi, with Takao Irie, Tokihiko Okada and Suzuko Taki, co-sponsored by the East Asia Program, 4:30 p.m., Willard Straight.

"King Lear (Godard)" (1988), directed by

Jean-Luc Godard, with Norman Mailer, Burgess Meredith, Woody Allen and Molly Ringwald, co-sponsored by the English Department, 7:15 p.m., Willard Straight.\*
"Santa Sangre," 9:30 p.m., Willard Straight.\*

## Thursday, 3/1

"Shri Ram Proves his Mettle," part 'of the video saga "Ramayan," an Indian epic, co-sponsored by the South Asia Program and Cornell University Libraries, 7:30 p.m., 310 Uris Li-

## **LECTURES**

## Arabic & Islamic Studies

"Women Among the Nomads of Southern Turkey," Leyla Neyzi, rural sociology, February 26, noon, G-08 Uris Hall.

## Chemistry

## **Debye Lectures**

"Voltammetry Under Unusual Conditions," R. Mark Wightman, Kenan Professor at the University of North Carolina, Feb. 23, 11:15 a.m., 119 Baker Laboratory.

## Classics

"Oedipus the King," by Sophocles, part of the Classics Playreading Series, Feb. 23, 8 p.m., Temple of Zeus, Goldwin Smith Hall.

"City Settings," Patricia Easterling, University College London, Feb. 27, 4:30 p.m., Hollis E. Comell Auditorium, Goldwin Smith Hall. This is the third in the Spring 1990 Townsend Lectures, "Regions of the Mind: Place and Places in Greek Literature."

## East Asia Program

"The Religious Symbolism of Mt. Fuji Through Japanese History," H. Byron Earhart, religion, Western Michigan University, Feb. 27, 4:30 p.m., Asian Studies Lounge, 374 Rockefeller Hall.

## Education

"Is There Any Sense in Mathematics?" Jack Lochhead, physics, University of Massachusetts, Amherst, Feb. 26, 4 p.m., W.I. Myers Room, 401 Warren Hall. This is the first half of a two-part series "Quantitative Literacy: New Ways of Teaching Mathematical Reasoning." The second part, "Video Presentations of Innovative Mathe-

matics Teaching," will take place March 5. Both events are part of the lecture series on "Exploring New Ideas About Teaching and

## International Agriculture Program

"The Tan Sheep of Central China - A Unique Opportunity for International Develop-ment and Cooperation," John R. Sabine, University of Adelaide, Australia, Feb. 28, 4 p.m., 135 Emerson Hall.

#### Jewish Studies Program

"The Voices of Jewish Women," a workshop, moderated by Liliane Weissberg, University of Pennsylvania, and opening remarks by Irene Heckt, president, Wells College, Feb. 25, 12:30 p.m., Hollis E. Cornell Auditorium, Goldwin Smith Hall.

"Anti-Semitism in Poland," Michel Wieviorka, Ecole des Hautes Etudes, Paris, Feb. 27, 4:30 p.m., 177 Goldwin Smith Hall.

#### Near Eastern Studies

"The Development of Hebrew Poetry from Palestine to Spain," Zvi Malachi, Hebrew literature, Tel Aviv University, co-sponsored by Jewish Studies Program, today, 4:30 p.m., 374 Rockefeller Hall.

"The Israeli-Palestinian Conflict Can Be Solved," Jerome Segal, Institute for Philosophy and Public Policy, University of Maryland, cosponsored by government, Hillel, Center for International Studies and Peace Studies, March 1, 4:40 p.m., Hollis E. Cornell Auditorium, Goldwin Smith Hall.

## Pentangle II

Cecile Starr, New York film critic, will present and discuss animated films on serious themes, March 1, 7:30 p.m., auditorium, Uris

#### **Romance Studies**

"Raul Ruiz, Latin American Cinema and Post-Modernity," Richard Pena, director, New York Film Festival and Columbia University, Feb. 28, 4 p.m., Kaufmann Auditorium, Goldwin Smith Hall.

## **MUSIC**

## Department of Music

The "Great Soloist and Orchestra Series" will feature soprano Benita Valente and mezzo-soprano Tatiana Troyanos, accompanied by pianist Warren Jones, tonight at 8:15 p.m., Bailey Hall. The program will include arias from two operas by Mozart, "Cosi fan tutte" and the "Marriage of Figaro," and songs and arias by Johannes Brahms, Alban Berg, Charles Gounod, Faure and Georges Bizet. Tickets for the concert are on sale at the Lincoln Hall ticket office mornings, telephone 255-5144, and at the Center Ithaca Box Office, 11:15 a.m. to 4:30 p.m.

Malcolm Bilson, fortepiano, Sonya Monosoff, violin and Loretta O'Sullivan, cello perform a Beethoven-Schubert concert on Feb. 23, 8:15 p.m., Barnes Hall. Featured works by the trio are Beethoven's Ten Variations on the song "Ich bin der Schneider Kakadu" from the opera "Die Schwestern von Prag" by Wenzel Muller, Op. 121 and Schubert's Sonata in A Minor, Op. 137, no. 2 for violin and piano and Trio in B-flat Major, Op. 99 (D. 898).

Cornell Contemporary Chamber Players, joined by Ilse Zahn-Wienands, trombonist Mark Scatterday and the Cornell Chorus under the direction of Susan Davenny Wyner, will perform on Feb. 24, 8:15 p.m., in Barnes Hall. "Flammenzeichen" (signal fire); "A. ist der erste am Pol" (the last words by R.R. Scott) and "Monolog" for female voice and kettle drum while playing (tambourin, sleighbells, kettle drum), will be sung by Wienands. The Chamber Players will feature works by Estonian composer Arvo Part and Russian composer Alfred Schnittke. The Cornell Chorus sing Stravinsky's Four Russian Songs, in Russian.

"French Baroque Music for Flute," with Steven Zohn, flutist, joined by Robert Seletzky, violin; Steven Lehning, viola da gamba; Zvi Meniker, fortepiano; and Steven Zohn, flute, will perform works by La Barre, Braun, Blavet, Couperin, Rameau and Marais, on Feb. 28 at 8:15 p.m., in Barnes Hall.

## **Bound for Glory**

Chris Proctor, guitarist and singer, will perform three live sets in the Commons Coffeehouse, Anabel Taylor Hall, on Feb. 25, 8:30, 9:30 and 10:30 p.m. Bound for Glory can be heard Sundays from 8 to 11 p.m. on WVBR-FM, 93.5.

## **Innell Concert Commission**

"Erasure" will perform in concert today at p.m. in Barton Hall. General admission tets are \$12 for students (2 tickets per CU and \$16 for the general public. Tickets are sale at the Willard Straight Ticket Office, hop Records, Ithaca Compact Disc, and all ketron/Telecharge outlets (1-800-382-8080).

#### Prnell Jamboree

The sixth annual Cornell Jamboree will Presented on Feb. 24 at 8 p.m. in Bailey The concert will feature five a cappella Ring groups, including the Hangovers, Yuga's Waiters, Nothing But Treble, the Muchtones and the Class Notes. Tickets are sale at the Willard Straight Box Office and bough any groups' members for \$5.

## RELIGION

## Sige Chapel

Beverly A Tasy, assistant director, CURW, deliver the sermon at 11 a.m. on Feb. 25. Nic will be provided by the Sage Chapel Coir, joined by the Syracuse University Hendreks Chapel Choir under the direction of Dr. hryn Pardee, organist and choirmaster, for performance of Thomas Tallis' motet "All Pople That on Earth Do Dwell" and G. F. "Malelujah, Amen" from the oratorio das Maccabaeus." Sage is a non-sectarian copel that fosters dialogue and exploration and among the major faith traditions.

Weekly meetings on campus. Call 257-171 for information.

## Cutholic

Mass: Saturdays, 5 p.m., Anabel Taylor Au-

Mass: Sundays, 9:30 a.m., 11 a.m., 5 p.m., Alabel Taylor Auditorium.

Daily Masses, Monday through Friday,

Ash Wednesday, Feb. 28, 12:20 p.m., 5:15 pfl. and 7:30 p.m., Anabel Taylor Auditorium.

## Christian Science

Testimony Meeting: Thursdays, 7 p.m., Afabel Taylor Founders Room.

## Eriscopal (Anglican)

Sundays, worship and Eucharist, 9:30 a.m., Ry Gurdon Brewster, chaplain, Anabel Taylor

## Friends (Quakers)

Sundays, 10 a.m., adult discussion; 11 a.m. picking for worship, Edwards Room, Anabel Job Hall. Call 272-8755 for information.

## Jewish

Shabbat Services: Friday, Reform, 5:30 p.n., Chapel, Anabel Taylor Hall; Conservailv. 5:30 p.m., Founders Room; Orthodox, Young Israel (call 272-5810 for times). Saturdi), Orthodox, 9:15 a.m., Edwards Room; Cobervative/Egalitarian, 9:45 a.m., Founders

Morning Minyan at Young Israel, 106 West Ar . Call 272-5810.

## Korean Church

Sundays, 1 p.m., Anabel Taylor Chapel.

Muslim

fridays, 1 p.m., Anabel Taylor Edwards

## protestant

Ptotestant Cooperative Ministry: Sundays, Bible study 10 a.m., G-7 Anabel Taylor; worshift la.m., Anabel Taylor Chapel.

## Zen Buddhism

Azen meditation: Thursdays at 5 p.m. in the chapel, Anabel Taylor Hall. For more information or to arrange beginner's instruction, telephone Jon Warland at 257-1404.

## SEMINARS

Agronomy

Modeling Soil Hydrology: Principles, Perspectives, Problems," Jeff Wagenet, agronomy, Feb. 27, 4 p.m., 135 Emerson Hall.



Students in the College of Veterinary Medicine at a rehearsal of "A Day in Hollywood, A Night in the Ukraine." Performances will be at 8 p.m. Feb. 23 and 24 and at 2 p.m. Feb. 25 in the James Law Auditorium. The students are (center): Heidi Heinzering; (front, from left): Elizabeth Sanders, Rich Goldstein, Brooke Hines, Jeff Lapoint, Justine Johnson and James Morrisey; (back, from left): Michael Bukowski, Maria Delaney, Elia Colon, Rosemarie Floetenmeyer and Rob Lee. Admission is \$5.

#### Anthropology

"Ethnicity and the Quest for Redress Among Japanese-Americans," Yasuko Takizawa, University of California, Santa Barbara, Feb. 26, 3:30 p.m., 303 McGraw Hall.

## **Applied Mathematics**

"Promises and Limitations of Signal-Sub-space Methods for Detection and Direction-of-Arrival Estimation of Narrowband and Wideband Sources," M. Kaveh, University of Minnesota, Feb. 23, 4 p.m., 322 Sage Hall.

## Astronomy

"Chondritic Meteorites as Clues to Planetary Compositions," Henry Y. McSween, University of Tennessee, Feb. 22, 4:30 p.m., 105 Space Sciences Building.

"Supernovae and the Interstellar Medium," Carl Heiles, University of California, Berkeley, March 1, 4:30 p.m., 105 Space Sciences Building.

## Biophysics

"Crystallography and Drug Design: Phospholipase and Interleukin 1 in Inflammation," Keith D. Watenpaugh, physical and analytical chemistry, The Upjohn Company, Feb. 28, 4:30 p.m., 219 Baker Laboratory.

## Biochemistry, Molecular & Cell Biology

"Ubiquitin-Dependent Regulation in Muscle," Arthur Haas, biochemistry, Medical College of Wisconsin, Feb. 23, 4 p.m., Conference Room, Biotechnology Building.

"Differential Polyadenylation: New Lessions from Hepatitis B Virus and Retroviruses," Don Ganem, microbiology & immunology and medicine, co-sponsored by Biotechnology Program, March 1, 4 p.m., Large Conference Room, Biotechnology Building.

## Boyce Thompson Institute

"Reductive Dechlorination: New Opportunities for Treatment of Hazardous Chemicals, James M. Tiedje, Center for Microbial Ecology, Michigan State University, Feb. 28, 2 p.m., auditorium, Boyce Thompson Institute.

## **Chemical Engineering**

"In Situ Addition of Probe Molecules in CO Hydrogenation Reactions Over Supported Ruthenium Catalysts," Donna Blackmond, chemistry and petroleum engineering, Feb. 27, 4:15 p.m., 245 Olin Hall.

## Chemistry

Organic Chemistry Seminar, "One-Electron Bonds: Revival of an Old Paradigm, Joe Dinnocenzo, Feb. 26, 4:40 p.m., 119 Baker Laboratory.

General Chemistry Colloquium, "NMR Investigations During Homogeneous Hydrogenations Using Ortho- and Para- hydrogen," Joachim Bargon, Universitat Bonn, West Germany, March 1, 4:40 p.m., 119 Baker Labora-

#### Communication

Title to be announced, Zhongdang Pan, University of Wisconsin, Feb. 23, 2:30 p.m., Communication Graduate Center.

## **Comparative Muslim Society**

"Rethinking the Cultural Manifesto (manikebu)," Gunawon Mohamed, Harvard University, editor, "Tempo" magazine, co-sponsored by Southeast Asia, March 1, noon, 102 West Ave.

## **Ecology & Systematics**

"Chloroplast DNA Evolution and Legume Phylogeny," Jeffrey J. Doyle, L.H. Bailey Hortorium, Feb. 28, 4:30 p.m., Morison Seminar Room, Corson/Mudd Hall.

## **Epidemiology**

"An Editor's Perspective on Manuscript Preparation," Hollis Erb, veterinary medicine, Feb. 23, 12:20 p.m., 260 Warren Hall.

## **Electrical Engineering**

"Modern Development in the Fast Fourier Transform," C. Sidney Burrus, chairman, Rice University, and on leave, M.I.T., Feb. 27, 4:30 p.m., 219 Phillips Hall.

## **Environmental Toxicology**

"Biodegradation of PAH's and Other Hydrocarbons in an Organic Solvent System," Rebecca Efroymson, agronomy, Feb. 23, 12:20 p.m., 304 Fernow Hall.

## Floriculture/Ornamental Horticulture

"Basic Design, Design Process and Design Languages in Landscape," Tom Johnson, landscape architecture, Feb. 22, 12:15 p.m., 404

Plant Science Building.
"Sculpting Space: The Landscapes of Isamu
Noguchi," Paula Horrigan, landscape architecture, March 1, 12:15 p.m., 404 Plant Science Building.

## **Food Science**

"Influences of Exogenous Porcine Soma-totropin on Nutritional Composition and Palatability Characteristics of Pork, Donald Beerman, animal science, Feb. 27, 4:30 p.m., 204 Stocking Hall.

## **Geological Sciences**

"Mantle Metasomatic Fluids," David Eggler, Pennsylvania State University, Feb. 27, 4:30 p.m., 1120 Snee Hall.

"Jewish Life in America," Topics in Jewish Tradition, Feb. 26, 8 p.m., 314 Anabel Taylor

## International Studies in Planning

"The Effect on Labor in Japan of Japanese Economic Deployment Overseas," Muto Ichiyo, visiting professor, SUNY Binghamton, Feb. 23, 12:15 p.m, 115 Tjaden Hall.

## Institute for African Development

"Effects of Climate Change on the Ecology and Agriculture of Sub-Saharan Africa," Mark Harwell, director, Global Environmental Program, Feb. 22, 3:30 p.m., 409 Wing Hall.

#### Jugatae

"How Do Pharmacophagous Butterflies Find Their Drugs?" Franz Bogner, neurobiology and behavior, Feb. 26, 4 p.m., Morison Seminar Room, Corson/Mudd Hall.

#### **Latin American Studies**

"Chemical Prospecting: Can the Search for New Natural Products Generate Revenue for Conservation?" Tom Eisner, Shurman Professor of Biology, sponsored by NUCLEO VERDE, Feb. 23, 12:30 p.m., 250 Caldwell.

#### Microbiology

"Molecular Genetics of Differentiation in Caulobacter," Bert Ely, biology, University of South Carolina, Feb. 22, 4:30 p.m., 124 Stock-

"Host Cell Invasion and Erythrocyte Binding Proteins of Plasmodium knowlesi," John H. Adams, Laboratory of Parasitic Diseases, National Institute of Allergy and Infectious Diseases, Bethesda, Md., Feb. 26, 12:15 p.m., G-3 Vet Research Tower.

## Modern Languages & Linguistics

"How to Use the MacLang Authoring System," Judith Frommer, Harvard University, Feb. 22, 3:30 p.m., 106 Morrill Hall.

"Prescription, Intuition and Usage: Variability and the Subjunctive in Canadian French,' Shana Poplack, linguistics, University of Ottawa, March 1, 4:30 p.m, 106 Morrill Hall.

## Neurobiology & Behavior

"Sampling the Chemical Environment with high spatio-temporal resolution: Odor Signals, Receptor Cells and Behavioral Decisions,' Jelle Atema, Marine Biological Laboratory, Woods Hole, Feb. 22, 12:30 p.m., Morison Seminar Room, Corson/Mudd Hall.

"A Tale of Two Muscles: Searching for Spinal Interneurons that may Control Locomotion in the Cat," Robert Burke, Laboratory of Neural Control, National Institutes of Health, March 1, 12:30 p.m., Morison Seminar Room, Corson/Mudd Hall.

## Nutrition

"Selenium and Chemoprevention of Cancer," Clement Ip, and Breast Cancer Research Unit, Roswell Park Memorial Institute, Feb. 26, 4:30 p.m., 100 Savage Hall.

## Ornithology

"Gift to Wildlife and You — Partners in Conservation," David Nelson, wildlife biologist, New York State Department of Environmental Conservation, Feb. 26, 7:45 p.m., Laboratory of Omithology, 159 Sapsucker Woods

## **Peace Studies Program**

"The Prospects for Peace in the Middle East: Looking at the PLO from the Past Two Years to the Present," Avraham Sela, The Hebrew University of Jerusalem, Feb. 22, 12:15 p.m., G-08 Uris Hall.

## Physiology

"Relaxation Oscillators and Cardiac Excitation: Lessons from a Pipette Washer," Dante Chialvo, pharmacology, SUNY Health Science Center, Syracuse, Feb. 27, 4:30 p.m., G-3 Vet Research Tower.

## Plant Biology

"Metabolic Interactions Between Photosynesis. Respiration and Nitrogen Assimilation David Turpin, biology, Queens University, Kingston, Ont., Feb. 23, 11:15 a.m., 404 Plant Science Building.

## Plant Pathology

"Response of Solanum tuberosum subsp. andigena and Selected Potato Species to in vitro Antiviral Therapy," Willi Sanchez, plant pathology, FEb.27, 4:30 p.m., 404 Plant Science

## Poultry & Avian Sciences

"Applied Genetic Selection in Table Egg Genetic Stocks," Verne A. Logan, Arbor Acres Farm, Inc., Glastonbury, Conn., Feb. 22, 4:30 p.m., 300 Rice Hall.

## Religious Studies

"Taiken: An Inside View of Japanese New Religions," H. Byron Earhart, Japanese religion, Western Michigan University, Feb. 26, 4:30 p.m., A.D. White House.

## **Rural Sociology**

"Contemporary Social Movements in Japan: The Peoples' Plan 21," Muto Ichiyo, sociology, SUNY Binghamton, Feb. 23, 3:30 p.m., 32 Warren Hall.

Continued on page 8

## ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

## Find home

## Pigeons' homing ability leaves biologists mystified; even a 'bird Bermuda Triangle' doesn't confuse them

Hundreds of thousands of homing pigeons have cooperated magnificently with scientists around the world for more than 40 years:

 They've allowed researchers to follow them with airplanes and track them by radio.

• They've worn frosted contact lenses on their eyes and tiny magnets on their backs.

• They've nested in odor-deflecting lofts and in buildings surrounded by electromagnetic coils.

• They've flown through "bird Bermuda Triangles."

Still, biologists can't figure out how homing pigeons, descendants of Mediterranean rock doves (and relatives of common street pigeons), find their way home.

"We've learned that homing pigeons can sense infrasonic sounds, changes in atmospheric pressure, polarized light patterns and ultraviolet light, subtle vibrations and naturally fluctuating magnetic fields," Cornell biologist Charles Walcott reported at the annual meeting of the American Association for the Advancement of Science.

These articles are based on presentations made by Cornell faculty members at the annual meeting of the American Association for the Advancement of Science, Feb. 15-20, in New Orleans.

"We still don't understand how these humble birds sort through all the available cues for orientation and how they switch from one navigation system to the another," Walcott

A professor of neurobiology and behavior and director of the Cornell Laboratory of Ornithology, Walcott has based his scientific career on solving the riddle of bird orientation.

Homing pigeons are a convenient scientific model for wild migratory birds, because flight experiments can be repeated many times each year and because the experimental subjects, with carefully chronicled genetic backgrounds, almost always return, Walcott said in an interview. Homing pigeons that fail to come home also can tell scientists something, he added, and he wishes he knew what.

"Given the limitations of our own sensory world and our

bond to the Earth's surface, solving the mystery of how pigeons find their way is a challenging and intriguing goal," Walcott said as he described some of the experiments conducted over the past four decades:

• After biologist Floriano Papi and his colleagues at Italy's University of Pisa reported in 1972 that interfering with a pigeon's sense of smell disrupted its ability to orient and return home, another Italian scientist devised an ingenious test. Emilio Baldaccini raised young pigeons in "deflector lofts" with vertically slotted walls to allow the free passage of air, but with large corner panels to deflect the wind 90 degrees from its actual direction.

Baldaccini reasoned that pigeons learning to sniff their way in the world would have their olfactory "maps" rotated by 90 degrees. That is because scented winds that seemed to come from the north side of the loft were really from the east, for example.

When the Italian pigeons were removed from their 90-degree deflecting lofts and released some distance from home under sunny skies, they headed in the wrong direction by approximately 90 degrees. That seemed to prove that pigeons sense direction with their nostrils.

But when the deflector loft experiments were repeated at Cornell with identical equipment and the birds were released under overcast skies, they were not deflected at all.

• A Cornell pioneer in bird navigation studies, the late William T. Keeton, discovered several launch sites where homing pigeons that normally headed directly home instead consistently flew in other directions. For example, when radio-equipped Cornell pigeons were released at a site 90 miles north of the university and tracked by airplanes, they flew west for 15 miles before somehow getting their bearings and heading south to their Cornell home.

Also, 75 miles west of Cornell, Walcott and his colleagues found a hill from which Cornell birds flew off in all the wrong directions and were never seen again. The biologists thought they had found a "Bermuda Triangle for birds" in southwestern New York state that affected all the pigeons. But when they repeated the experiment with homing pigeons from Rochester, N.Y., the Rochester birds went home without difficulty. So did pigeons the Cornell researchers borrowed from other locations in the Northeast. Only pigeons raised at Cornell were befuddled by the New York Bermuda Triangle, Walcott said, and no one knows

• When Walcott was a Harvard faculty member in the



Charles Harrington

Biologist Charles Walcott with a research subject.

early 1960s, he thought he was close to understanding how pigeons navigate by the Earth's magnetic field when they can't see the sun. Pigeons he raised at Linden, Mass., were disoriented by magnetic anomalies — places where the magnetic field of the Earth is disrupted by underground iron deposits. However, when he moved his experiments to Cornell in the early 1980s, Cornell-raised pigeons were not affected by magnetic anomalies in New York or Massachusetts, either. Recently, he found that pigeons raised at the site of his old Massachusetts laboratory are confused by magnetic anomalies, while pigeons from a loft a mile and a half away are not.

"The pigeons seem to be telling us that birds growing up under different conditions may learn to use different strategies," Walcott commented. "That suggests that pigeons—and probably other birds, too—are great opportunists."

—Roger Segelken

## Computer-tailored joints could last decades: Taylor

Orthopedic surgeons soon will be able to manipulate an image of a patient's hip or knee on a computer screen to tailor artificial joints to the patient, according to a Cornell engineer who is developing such a computer-design system for hip joints.

The surgeons will even "rehearse" the implant operation, using the 3-D computer graphics to test how the implant, machined in the same hospital, fits and moves within the patient.

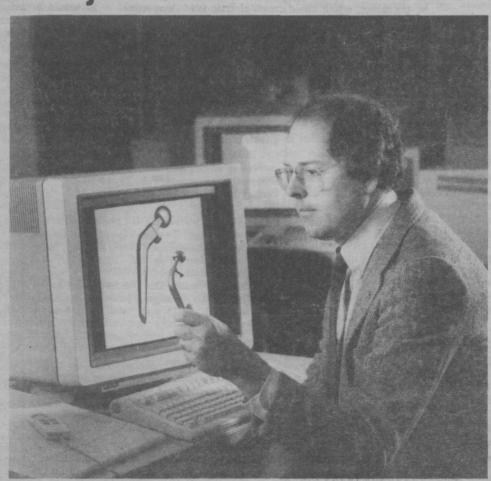
The result of the computer system will be artificial hip and knee joints "tuned" so precisely to patients that the devices will last decades longer than they do currently and be less expensive to construct.

Some 200,000 artificial hip joints are installed each year in this country, said Dean Taylor, an associate professor of mechanical and aerospace engineering. He made his comments during a symposium at the annual meeting of the American Association for the Advancement of Science.

The number of artificial joint implants is expected to rise considerably over the next few decades, given the expected rise in the number of senior citizens. While some hip implants replace joints broken in falls, the majority are performed to restore mobility lost to arthritis or dysplasia, he said.

Speaking at a symposium on "Supercomputing and Science: Improving the Quality of Life," Taylor described the research program by Cornell and the Biomechanics Laboratory at the Hospital for Special Surgery (HSS) in New York.

Currently, a surgeon chooses an implant for a patient from among a limited number of standard-sized devices by superimposing a succession of silhouette templates over X-rays of the joint. Even with X-rays as guides, however, the surgeon must keep several sizes on hand during the operation, because the real three-dimensional joint may be quite different from that reflected by the two-dimensional X-ray. Large hospitals usually must keep an inventory of \$3 million to \$5 million of artificial hip and knee joints on hand. Taylor said.



Dean Taylor holds an artifical joint in front of a computer image of the same joint.

The artificial hip joints installed using this current system now last about a decade, and replacement may be necessary because of loosening of the joint or bone or implant breakage in the dynamic environment of the

"Designing an artificial joint is not like designing the landing gear of a 747," Taylor said. "The living skeleton is a very active system, with the bone adjusting itself to altered loads. It's also an extremely tough

chemical environment." What's more, joints are geometrically complex and bone is not a uniform material, varying considerably in density and strength from point to point in the same bone, he noted.

To understand the complexities of stress and remodelling by the complex composite of bone and implant, Taylor and his colleagues have developed structural analysis models on the International Business Machine Corp. supercomputers at the Cornell

National Supercomputer Facility. Their models allow them to analyze how the bone responds to implants by changing its geometry and material properties.

The insights into bone-implant behavior gained from these supercomputer models then are applied to an analysis system running on standard engineering work stations that could be installed in a surgeon's office.

The Cornell-HSS group already has developed a clinical computer system that allows hip joints to be individually tailored.

In the system, data from computerized tomography (CT) scans of the patient's joint are fed into the computer, which displays the joint, employing color, transparency, three-dimensions and dynamic motion to give the surgeon a useful image. The surgeon then can use the image to design and "test" a tailored implant for the joint. The data specifying that implant are fed to a numerically controlled machine tool system that machines down a generic metal casting to the desired geometry.

"With this combination of CT scans and graphics to display information for surgeons, we can achieve a much better fit and design for hip implants," he said. "It's reasonable to expect these improved implants to last decades longer than current devices.

"The system also allows the surgeon to determine potential problems installing a hip joint before the operation, and it increases the surgeon's productivity."

According to Taylor, several research hospitals around the country now use the implant-design system, and he expects to see widespread use in about five years.

Taylor said that their research also could find application for knee implants. However, the Cornell-HSS group has concentrated on artificial hips because they are simpler devices and because hip implants tend to present more longevity problems than do knee implants.

The Cornell-HSS research is supported principally by the Clark Foundation of New

— Dennis Meredith

## ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

# Accelerators of tomorrow are in today's labs, physicist says

Even before planning for the gigantic \$7 billion Superconducting Super Collider (SSC) is complete, the seeds of future accelerators potentially far more powerful are being nurtured in laboratories around the world, according to physics Professor Robert Siemann.

Siemann cited as examples proposed particle acceleration techniques of "surfing" beams of electrons along powerful plasma waves created by intense laser pulses, or of dragging them behind larger electron clusters like a car tailgating a truck. Plasmas are high-temperature gases of electrons and electrically charged atoms.

"While the SSC is now the only way we know how to reach the highest energy levels, we are not out of ideas," Siemann told a symposium at the annual meeting of the American Association for the Advancement of Science. Siemann conducts research in the dynamics of high-energy beams and the theory of advanced particle accelerators.

"They all have warts, but there are some nice concepts out there that should be explored by theory and experiment," he told the symposium, "Particle Accelerators of the Future." Further research should reveal which of the dozen or so ideas for accelerating particles to enormous energies could prove technologically feasible and economical as a basis for the next-generation particle accelerator, Siemann said

The SSC, with its 53-mile ring of magnetically contained proton beams, is the ultimate accelerator possible using today's technology, Siemann said. Using radio waves, the SSC will accelerate the counter-rotating beams to energies of 20 trillion electron volts. Collisions between the beams will produce cascades of short-lived, sub-nuclear particles that will yield insights into the basic nature of matter. To study the most fundamental forces and particles, physicists must collide particles at the highest possible energies.

The key technologies in the SSC and other such machines are those needed to accelerate the protons, to focus the beams, and to contain and guide them to collisions.

Siemann said that the SSC is probably the last great proton accelerator. The basic ideas behind it — including "alternating gradient focusing" of the beam, the circular colliding-beam technology and superconducting magnets to contain the beam — are reaching the limits of energies they can

However, there is every reason to believe that basic research in accelerator physics will continue the exponential increase in beam energies that have been achieved over the last four decades, he said.

The next generation of accelerators will likely be machines that accelerate opposing beams of electrons along straight lines to achieve high-energy collisions with one another, Siemann said, citing the Stanford Linear Collider as an example.

Collisions of electron beams yield populations of particles that are easier to analyze, and electron beams lose so much energy when forced into circular courses that linear acceleration paths are necessary, he said.

In his talk, Siemann discussed two examples of promis-



Robert Siemann in the control room of the Cornell Electron Storage Ring.

ing acceleration techniques: dielectric wakefield accelerators and laser-plasma wakefield accelerators. While the SSC uses traveling radio waves to accelerate protons, the dielectric wakefield accelerates electrons using traveling clusters of other electrons. In such devices, a large cluster of electrons is first launched down the beam line of the accelerator, leaving an electromagnetic wake. A few billionths of a second later, a smaller cluster is launched behind the first, and is accelerated by the wake of the first, like a car tailgating a truck on a highway. The first batch, called the "driver," loses energy to the second, called the "witness"

After a short distance, the spent driver cluster is ducted away from the beam line and replaced by another fresh driver, which accelerates the witness electrons even more.

Dielectric wakefield accelerators, being developed at Argonne National Laboratory, can boost the energy of electrons enormously in only a short distance, Siemann said. For example, Argonne hopes to build a demonstration accelerator that will boost an electron to an energy of more than a billion electron volts in less than a meter.

However, he said that much theoretical work remains to determine whether a high-quality beam could be produced by the driver, which could create electric fields that would deflect and defocus the beam, as well as accelerate it.

Researchers also must learn how to produce drivers with the appropriate number of electrons at the appropriate energies to accelerate the witness. Finally, said Siemann, it is unclear how economical and energy efficient such a scheme would be.

At the AAAS meeting, Siemann also outlined the status of another promising acceleration technique: the laser-plasma wakefield accelerator.

In this device, a powerful laser pulse is sent through a hot

plasma consisting of electrons and ionized atoms. The pulse creates a plasma wave that courses down the beam line. If an electron bunch is injected just behind the laser pulse, it will "surf" along this wave, gaining enormous energy.

Siemann said that such a technique could accelerate electrons by 2.6 billion electron volts for every meter of its length, or 100 times the acceleration developed in the Stanford Linear Collider. Thus, just three such laser-plasma accelerators strung together could accelerate a beam of electrons to one trillion electron volts in only a kilometer, 20 times the energy achieved with the Stanford Linear Collider.

Until recently, scientists believed that a major difficulty with this technique was that the laser pulse would not remain focused for longer than about a meter, Siemann noted. However, physicist Phillip Sprangle of the Naval Research Laboratory in Washington, D.C., has developed theoretical models showing that the plasmas would form an "optical guide" that could contain the laser pulse over about 100 meters. Such a longer "stage length" greatly increases the likelihood that the technique will be useful.

Besides a need for better theories, other problems with the laser-induced plasma accelerator include the fact that electrons travel faster than the plasma waves, losing energy as would a surfer outrunning an ocean wave. Also, the technique demands that more powerful lasers that deliver shorter pulses be developed. Finally, said Siemann, the whole accelerator must be energy efficient enough to operate economically.

"These ideas and the many others being studied could have a tremendous impact on science, but not for another decade or so," Siemann said. "Given the history of accelerator research, we can be hopeful that at least some of them will bear fruit."

— Dennis Meredith

## Kalos: Computers are changing the face of science

From complex computer models that allow scientists to "experimentally" alter Earth's climate to data-analyzing programs that sift through signals from space to reveal new stars, the wide use of the computer has changed the face of contemporary science, according to Malvin Kalos, director of the Center for Theory and Simulation in Science and Engineering.

The public, as well as many scientists, does not appreciate how thoroughly computers have permeated scientific research and how much they are extending the human intellect into formerly inaccessible realms of complexity, Kalos said.

In a talk at the annual meeting of the American Association for the Advancement of Science, Kalos outlined how computers are extending the human intellect in science. He spoke at a symposium on "The Computational Paradigm in Science and Engineering"

While some observers have called computation a third component of science, distinct from theory and experiment, Kalos minimizes that distinction.

"I think it's important to realize that computation has been integrated thoroughly into the fabric of science," he said in an interview before the meeting.

"For example, the public might read a gee-whiz article about a new particle accel-



Malvin Kalos

erator without being aware that the device was designed by computers, that every experiment was preanalyzed by computers, and that computers analyzed the data looking for the desired product particle — the physics equivalent of looking for a needle in a haystack."

Many of the most exciting phenomena in science would remain undetected without computers, whether they are analyzing cascades of radio signals from space to look for stars called pulsars or organizing a massive jumble of seismic echoes to reveal the structure of the Earth's crust, Kalos said.

Computers also have allowed scientists to build complex simulations to extend their explorations far beyond those possible with experiments, he continued, citing efforts to understand the physics of liquids, including the simple case of a liquid produced by cooling the inert gas argon.

"Traditionally, scientists proceeded by attempting to find approximations that would permit predictions about the liquid," Kalos said. "They were constrained by the mathematical techniques at their disposal.

"But with advanced computing, they can build models using a hypothetical argon atom," he explained. "They may not know exactly the properties of argon, but can do computer 'experiments' by changing the atom's properties and studying how the model liquid behaves compared with the real thing. They're no longer simply making approximations in the dark."

However, some theoreticians still believe that such models are "less than proper science," Kalos said. "They feel that it's somehow cheating; that you're supposed to understand nature by thinking about it, not by computing."

Particularly important in such modelling is that the computer allows scientists to explore complex, real phenomena and not simplified "linear" versions, he noted.

"Isaac Newton made great advances in understanding the solar system thanks to the fact that the laws of orbiting bodies he was thinking about were simple, relative to the mathematical tool of calculus he had developed," Kalos said.

"But we can no longer limit ourselves to thinking about the nature that can be described by such linear mathematics. Without a computer, we could measure, but not really reason about or predict, more complex, non-linear phenomena of nature, from weather to subnuclear structure," he said.

Computer analysis is more than just a means to numerically analyze data, he emphasized; it yields real insight into scientific problems.

"Computation forces you to think harder; it clears your mind," he said. "Often the best insight comes from setting up the computation. As soon as you can reason mathematically, you can begin to think about more subtle phenomena rigorously and quantitatively."

—Dennis Meredith

erated by EarthYear 1990 goes beyond the campus, the Cornell Cooperative Extension network is prepared for a special outreach effort, said David W. Gross, senior extension associate in natural resources.

"We will look for opportunities to capitalize on the campus events with video taping, satellite up-links and the publication of conference proceedings for use by extension agents throughout the state," Gross said.

"There will be a two-way exchange of information during EarthYear, with agents coming on campus to share some of their first-hand experiences in dealing with environmental issues in their counties."

EarthYear Coordinator Tait said that of all the available resources at Cornell — the faculty members, the researchers and analysts, and the educators — the most vital may be the students.

"Much of the impetus for the first Earth Day came from students of that generation, students who are today's educators, researchers and policy makers," she said.

"We look to students in such organizations as Ecology House, Cornell Greens, the Environmental Law Society and the Jordani natural history society for the energy and imagination to produce a new environmental consciousness in the 1990s," Tait

-Roger Segelken

## Earth Year 1990 opens with lectures, panel discussions

Among the scheduled public lectures and panel discussions for EarthYear 1990 are these:

• A lecture on "Gift to Wildlife and You: Partners in Conservation," by David Nelson, senior wildlife biologist, New York State Department of Environmental Conservation, on Monday, Feb. 26, at 7:45 p.m. at the Laboratory of Ornithology.

· Center for Environmental Research lecture on global environmental problems by William Clark, senior research associate, Harvard University, on Thursday, March 1, at 4:30 p.m. in the Boyce Thompson Institute Auditorium.

· "Loons from Alaska to Florida: Their Ecology, Behavior and Conservation," a lecture by Judith McIntyre of Utica College, on Monday, March 5, at 7:45 p.m. at the Laboratory of Ornithol-

· "Comments on the Land Ethic," EarthRise lecture by Carl Leopold of the Boyce Thompson Institute for Plant Research, on Tuesday, March 6, at 7:30 p.m., at a location to be announced.

· A lecture on 'Marine Geology, Biological Oceanography and Ecological Theory: The Role of the Individual," by Robert Paine, University of Washington, on Thursday, March 15 at 4:30 p.m. in the ground floor conference room of the Biotechnology Building.

· "Homage to St. Patrick or Why There Are So Few Bird Species in Ireland," a lecture by Raymond J. O'Connor, University of Maine, on Monday, March 12, at 7:45 p.m. in the Laboratory of Omithology.

· "Environmental Impacts on Minority Communities," proposed EarthRise panel discussion with Clay Carter, Citizens Clearinghouse for Toxic and Hazardous Waste; Hubert Dixon, Center for Health Services; and Benjamin Chavis, director of the Commission for Racial Justice. Tuesday, March 20, at 7:30 p.m. in Anabel Taylor Hall.

• "Indigenous Peoples' Connection to their Environment," EarthRise lecture by Jose Barreiro, editor of Northeast Indian

Quarterly, and Dr. Carol Rubenstein, who worked with indigenous people of Borneo. Tuesday, March 27, at 7:30 p.m. in Anabel Taylor Hall.

· "Studies in Marine Chemical Ecology and Biotechnology," Biological Resources Program Lecture by William Fenical, Scripps Institution of Oceanography, on Thursday, March 29, at 4:30 p.m. the Biotechnology Building ground floor conference room.

· "Global Environmental Change," Bartell Lecture by Frank Press, president of the National Academy of Sciences, on Thursday, March 29, at 7:30 p.m in Bailey Hall.

 "Economics and Ecology: Can Development be Sustainable?" Eco-Justice Conference, Friday and Saturday, March 30 and April 1, at 7 p.m. in Anabel Tay-

· "Wetlands and the Politics of Protection," EarthRise Lecture by Barbara Bedford, Ecosystems Research Center, Tuesday, April 3, 7:30 p.m. in Anabel Taylor Hall.

## Stroika continued from page 1

know if they will last? . . . We are waiting to see if the policy changes will be put into law," Sharlet said.

In the meantime, however positive the changes seem, they also have sparked problems in Soviet society, he added. Democracy in the streets is being used "more and more to pursue uncompromising individual or non-negotiable ethnic, nationalist agendas," Sharlet said. And, because the Soviet Union lacks a history of tolerating differences, "a lot of these activities . . . are tearing at the social fabric of society."

"Problems? Yes. Problems remain.

Problems arise. Problems abound," Lipson said. Not only those sparked by perestroika, but those perestroika was designed to remedy still exist, he said.

Among them are agriculture, alcoholism, cooperatives, collective labor, corruption, crime, ideology, military morale, national party unity, what used to be called satellite countries, shortages, trade unions and competing unions, he said.

In response, the Soviets are considering lessening the role of the Communist Party and broadening constitutional rights. Proposed constitutional changes would expand

freedoms of speech, assembly and property ownership. In the area of criminal procedure, proposals would establish the presumption of innocence, introduce a jury for some cases and broaden redress to citizens injured by illegal action by the state, Lipson noted.

But if put on the books, will the new laws become compatible with law in practice? "In the Soviet Union, the jury is still out," Lipson said.

A positive answer, nonetheless, would require the Soviet Union to overcome 70 years of "monopoly-power privileges over

official posts; monopoly power over the media and communications; systematic secrecy; routine mendacity; frequent official disparaging of the importance of the legal profession; deep-seeded, far-reaching lawlessness on the part of state officials; policies and practices that have the effect of encouraging corruption and mockery of the independence of the judiciary," Lipson said.

"Time is needed" to train new leaders, to adjust expectations, to build a new political culture and rebuild the economy, he added. "The question is whether it's available."

—Lisa Bennett

## CALENDAR

continued from page 5

## Science, Technology & Society

"Skepticism and the Sociology of Science," Michael Lynch, sociology, Boston University, Feb. 26, 4:30 p.m., 609 Clark Hall.

"Governing Technological Systems: Toward Lower-Cost Political Learning," Edward J. Woodhouse, Rensselaer Polytechnic Institute, Feb. 27, 4:30 p.m., 609 Clark Hall.

## South Asia Program

"Parting is Bad: Reflections on Love and Other Real Problems in a Rajasthani Folk Epic Tradition," Ann Gold, South Asia Program, Feb. 28, 12:15 p.m., 153 Uris Hall.

## Southeast Asia Program

"Philippine Livelihood Strategies: Leyte Key Study," Julie Leones, agricultural economics, Feb. 22, 12:20 p.m., 102 West Ave. Extension.

"Rethinking the Cultural Manifesto (Manikebu)," Gunawan Mohammad, chief editor TEMPO, Jakarta, March 1, 12:20 p.m., 102 West Ave. Extension.

## Stability, Transition & Turbulence

"Grapplings with the Flow Simulation of Polymer Molding and Encapsulation," S-F. Shen, mechanical and aerospace engineering, Feb. 27, 12:30 p.m., Grumman Conference Room, Grumman Hall.

## **Textiles & Apparel**

"Overview of Circuit Board Composite Materials," David Wong, manager, IBM, Feb. 22, 12:20 p.m., 317 Martha Van Rensselaer Hall.

"Environmental Impact of Synthetic Polymers," James F. Kinstle, James River Corp., Wisconsin, March 1, 12:20 p.m., 317 Martha Van Rensselaer Hall.

## Theoretical & Applied Mechanics

"History and Technology of Scanning Probe Microscopy," H.K. Wickramasingle, IBM, Yorktown, Feb. 28, 4:30 p.m., 205 Thurston Hall.

## Vegetable Crops

Expert Systems for Horticultural Research and Extension," Jan P. Nyrop, entomology, Geneva, Feb. 22, 4:30 p.m., 404 Plant Science

"Effects of the Fungus Pyrenochaeta ter-restris (Pink Root) on Onion Growth and Yield, Pam Coleman, vegetable crops, March 1, 4:30 p.m., 404 Plant Science Building.

## Western Societies Program

"Nationalist Conflict and the Federal Reform: The Case of Belgium," Liesbet Hooghe, University of Leuven, Feb. 23, 12:15 p.m., 153 Uris Hall.

## Veterinary Pathology

"Growth Inhibition, Repression of the C-FOS Protooncogene and the Differentiated State of Fibroblasts and Lung Epithelial Cells," Judith Campisi, biochemistry, Boston University, School of Medicine, March 1, 12:30 p.m., Hagan Room, Schurman Hall.

## **SPORTS**

## Thursday, 2/22

Men's Wrestling, Syracuse, home, 7 p.m.

Thursday, 2/22-Sunday, 2/25 Women's Swimming, Easterns at Pittsburgh

## Friday, 2/23

Men's Jr. Varsity Basketball, Casenovia, home, 5 p.m.

Women's Basketball, at Brown, 6:30 p.m. Men's Basketball, Brown, home, 7:30 p.m. Men's Hockey, at Vermont, 7:30 p.m.

## Friday, 2/23-Sunday, 2/25

Men's Track, Heptagonals at Comell Women's Track, Heptagonals at Comell

## Saturday, 2/24

Men's Gymnastics, Ivy Championships at Princeton

Men's Fencing, Columbia, Penn and Air Force, home, 11 a.m. Women's Fencing, Columbia, Penn and Air

Force, home, 11 a.m. Men's Jr. Varsity Basketball, Alfred, home,

Women's Basketball, at Yale, 6 p.m. Men's Basketball, Yale, home, 7:30 p.m. Men's Hockey, at RPI, 7:30 p.m. Men's Polo, Unadilla, home, 8:15 p.m.

## Saturday, 2/24-Sunday, 2/25

Women's Hockey, Ivy Tournament at Harvard Men's Squash, ISA Championships at Pennsylvania

## Tuesday, 2/27

Women's Basketball, Marist, home, 6:30 p.m.

Thursday, 3/1-Saturday, 3/3 Men's Swimming, Easterns at Army

## MISC.

## **Alcoholics Anonymous**

Meetings are open to the public and will be held Monday through Friday at 12:15 p.m. and Thursdays at 9:30 p.m. in Anabel Taylor Hall. For more information, call 273-1541.

## Committee on U.S.-Latin American Relations (CUSLAR)

Meetings are held Mondays at 5 p.m., in the Common Coffeehouse, Anabel Taylor. For more information call 255-7293.

## **Cornell Badminton Club**

The club meets Wednesdays and Sundays at the Henry St. John gym. For more information, call Bill at 272-3594 or Tom or Lisa at 533-7384.

## Cornell Nursery School

Applications for Cornell Nursery School for 1990-91 are now available by calling 255-3074. Openings for 5 days a week, morning or afternoon, for children three years of age before Dec. 1, 1990. For further information or to arrange a school visit, call Sue West, 257-5872. Application deadline is March 2.

## Intramural Sports

Intramural table tennis for men, women; \$2 entry fee, deadline 4 p.m., Feb. 27, in 305 Helen Newman Hall. Tournament will be held on March 3-4.

Intramural badminton for men, women, coed; \$5 team entry fee, deadline 4 p.m. March 1 in 305 Helen Newman Hall. Tournament starts on April 9.

## Macintosh Users' Group

MUGWUMP, the Macintosh Users' Group for Writers and Users of Mac Programs, meets on the first Thursday and second Wednesday of each month. Meetings are free and beginners are welcome. For more information, call Andrew Merkle, 277-2239.

## **Narcotics Anonymous**

A group of recovering addicts who live without the use of drugs, including alcohol. Membership requirement is a desire to stop using. Meetings are held weekly at 6 p.m., G-18 Anabel Taylor Hall.

## Peer Educators in Human Relations

A six-week series promoting awareness of oppression issues will take place Thursday evenings from 7 p.m. to 9:30 p.m., through March 15, with an additional weekend retreat March 2 through 4. To register or for more information call 255-7450.

## Writing Workshop

Writing workshop walk-in service: free tutorial instruction in writing. Monday through Thursday, 3:30 to 5:30 p.m. and 7 to 10 p.m.; Sunday, 2 to 8 p.m., 178 Rockefeller Hall; Sunday through Thursday, 10 p.m. to midnight, 340 Goldwin Smith Hall; Sunday through Thursday, 8 to 11 p.m., Clara Dickson Macintosh Computer Room; Sunday through Thursday, 8 to 11 p.m., Noyes Center Brows-

# CORNELL EMPLOYMENT NEWS

February 22, 1990

**Including Job Opportunities** 

Volume 2, Number 8

## Many Staff Development Opportunities Offered in Spring Training Calendar

The spring calendar of workshops was mailed last week to all employees' campus addresses. You are encouraged to review the offerings and talk to your supervisor about signing up for a course that interests you. Below are frequently asked questions on the training programs.

## What is the first step in signing up for a training course?

First, discuss your interest with your supervisor. Supervisors are encouraged to work with employees to allow participation in training programs where the employee has shown an interest or the supervisor sees a need. \*(See below for details on *Career Development Concepts for Managers* – a course designed to explore how supervisors can use career development to enhance employee motivation.)

## What programs are offered this spring?

Over 60 different courses are being offered now and they fall into five main topics: human relations and communication skills, management and supervision, work skills development, personal and career development, and health and safety procedures.

## When are the training programs usually offered?

Training and development programs are usually offered during normal working hours and, once registration is approved, hours spent in class are generally considered hours worked.

## If there is a charge associated with a particular course, who is responsible for paying the fee?

Individual employees are never charged for courses offered through the training calendar. Any charges associated with specific programs are charged to the employee's department or unit; certain courses require no fee at all. Also, course materials are provided at no cost to the employee. How do I register for a training calendar program?

Submit a registration form complete with all information and signatures to Training and Development, 107 Day Hall. If you need a registration form, call 5-7170.

## **Eight New Courses Offered this Spring**

The new workshops available this spring cover a variety of subjects:

- Graphic Design for Nondesigners learn about the computer's role in graphic design.
- Selling Your Ideas how to improve your presentation skills in order to sell your ideas.
- Myers-Briggs Type Indicator increase understanding of yourself and others with opportunities to apply this knowledge to various situations.
- Short-term and Long-term Disability learn departmental responsibilities regarding disability.
- Improving Interpersonal Effectiveness strategies for interacting more skillfully and working more effectively with others.
- Practical Tips and Support for Family Caregivers suggestions on how to deal with the psychological and physical aspects of being a caregiver.
- Creative Accomplishment setting and achieving goals for personal development.
- Understanding of Self: An Awakening learn to utilize hidden potential for enabling greater insight, initiative and effectiveness in job and family tasks.

## **Practical Skills Building Courses**

The following courses offer work skills development: Business Correspondence Writing Skills; Building Grammar and Punctuation Skills, Using Cornell Libraries, Telephone Tech-

niques, Resume Writing and Interviewing Skills, Public Speaking.

## **Courses of Interest to Supervisors**

The following are just a few of many programs offered with needs of supervisors in mind.

- \* Career Development Concepts for Managers this program, through a formalized approach to career management, helps supervisors ensure that employees have opportunities to maximize their potential. When employee career needs are aligned with those of the organization, the result often is an improvement in the employee's self worth, personal growth, productivity, creativity, and overall department morale.
- Bringing Out the Best in Others: Improving Employee Performance—guidelines and skills for successfully coaching, motivating and inspiring employees. Supervisors learn essential people skills for boosting productivity and enthusiasm in the workgroup.
- Meetings: Key to Improving Management learn how to make your meeting more effective and discover the benefits of proper planning, agenda structuring, room arrangement and problem solving as related to departmental meetings.
- Effective Delegation is designed to explore methods and techniques related to effective delegation.

Please note: *Understanding of Self: An Awakening* was advertised as a four-session program in the training calendar. This is actually a one-session (all-day) program in which you may enroll in any of four different sessions on either Friday March 23 or Tuesday April 24, or Friday May 18 or Friday June 22 from 9:00am until 4:30pm. This program is designed to help participants gain new insights into themselves and the world by unleashing creative, self-vitalizing forces.

# EXUAL Opportunity at Cornell

## Age Discrimination in Employment Act Protects Older Persons

 $by\ Valerie\ O.\ Hayes,\ associate\ director\ Office\ of\ Equal\ Opportunity$ 

In 1963, Congress passed the *Age Discrimination in Employment Act (ADEA)* to protect older persons from being discriminated against in the workplace solely because of their age. The Act covers persons aged 40 and older from intentional discrimination. *ADEA*, like other equal employment opportunity laws, seeks to eliminate harmful assumptions, misconceptions and stereotypes about the capabilities of older persons to be productive and valuable resources. These preconceived notions tend to unduly interfere with equal opportunity owed any applicant or employee.

While the Act prohibits intentional discrimination, it does not prevent an employer from:

- differentiating between persons based upon reasonable factors other than age; for example, if an applicant does not have the minimum skills required for the job, the employer can legitimately refuse to hire that person;
- using age as a reasonable bonafide occupational qualification necessary to the normal operation of the employer's business; for example, placing applicant age limitations for entry into apprenticeship training programs; and
- 3. establishing a good cause reason for making an adverse employment decision; for example, terminating an employee for failing to perform the essential duties required in the job.

ADEA's coverage is extended to bonafide fringe benefit programs, including "those

plans in which the employer makes no contribution, but merely serves as administrator of a plan that is paid for completely by the employees." In addition, "the plan must be genuine or authentic, and pay benefits, in order to be recognized as bonafide." The benefit plan must be communicated to employees and the terms of the plan must be observed by the employer.

Employers are permitted under ADEA, however, to observe bonafide employee benefit plans which include age limitations or differentials, such as retirement, pension, and insurance plans, as long as their purpose is not to arbitrarily and intentionally discriminate against persons because of their age in nonfringe benefit areas. The Act, therefore, prohibits an employer to intentionally refuse to hire an older person, for example, because its premiums (or contributions) to a plan may increase. The Act, in the alternative, does not prohibit the employer from passing along to all employees any increased costs which have a substantial financial impact upon the employer.

An employee who wishes to challenge an employee benefit plan under *ADEA* bears the burden of proving that the plan was implemented by the employer to avoid the purposes of the Act, namely to eliminate employment discrimination based upon age.

Complaints of discrimination based on age can be reported to the Office of Equal Opportunity, 234 Day Hall, for investigation and resolution.

## Signed, Completed Employment Application Policy Enforced

Beginning April 1, 1990, no regular full or part-time newly hired employees will be appointed (paychecks will be held) without a copy of a signed, completed employment application attached to the Personnel Action Form. Employee transfers do not require a new employment application.

The university has long had this policy in effect but voluntary compliance has resulted in signed, completed employment applications for approximately only half of all new hires

Why is it necessary for the university to have a signed employment application for all new hires?

- 1. The employee's signature on the employment application provides a legal basis for checking any information on the application. A hiring supervisor should never check references without this authorization.
- 2. The employment application provides valuable information not usually found in a resume about reasons for leaving previous jobs and salary history. Again, the applicant's signature attests that the work history provided is complete and truthful.
- 3. If individuals have engaged in conduct which led to dismissal or resignation (e.g., theft, racial or sexual harassment) they may not be desirable candidates for reemployment. A signed employment application makes it possible for Staffing Services to identify such individuals and evaluate their work history in relation to the new position they are seeking. Also, omission or talsification of information on the employment application provides grounds for dismissal should a hire or rehire occur.
- The Audit Department has advised Staffing Services that this policy must be enforced.

Hiring supervisors, payroll representatives, Personnel Support Group representatives and others with a need to know will be informed of the effective date of April 1, 1990 for requiring a signed, completed employment application for all newly hired employees. Paychecks will be held if a properly prepared employment application is not attached to the Personnel Action Form.

If you have any questions on this policy, please call Manager of Staffing Services Judith Stewart.

## March 31, 1990 Deadline Metropolitan and Select Benefit Claims

Select Benefits Claims: All medical and dependent claims for 1989 must be submitted by March 31, 1990. Under federal law, amounts remaining in a reimbursement account at the of the plan year cannot be returned to the employee. If you have any questions please call 255-3936 (endowed) or 255-4455 (statutory).

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Metropolitan Claims: All claims for 1989 services and PAID prescription drug claims for 1989 must be submitted by March 31, 1990. If you have any questions please call Statutory Finance and Business Services at 255-7995.

Staffing Services, 160 Day Hall, Cornell University, Ithaca NY 14853-2801 Day Hall: (607) 255-5226 East Hill Plaza: (607) 255-7422

Employees may apply for any posted position with an Employee Transfer Application. A resume and cover letter, specifying the job title, department and job number, is recommended. Career counseling interviews are available by appointment.

Requests for referral and/or cover letters are not accepted from external candidates unless specified in the ad. Candidates should submit a completed and signed employment application which will remain active 4 months. Interviews are conducted by appointment only.

Staffing Services will acknowledge receipt of all material by mail. Hiring supervisors will contact those individuals selected for interview by phone; please include two or more numbers if possible. When the position is filled, candidates should receive notification from the hiring supervisor.

Cornell University is an Affirmative Action/Equal Opportunity Employer.

Job Opportunities can be found on CUINFO

## **Professional**

Associate Director Cornell Fund (PA0607) HRIII
University Development-Endowed
Plan and implement University Annual Campaign for Alumni support.
Responsible for personal solicitation and recognition programs involving higher level donors, with particular emphasis on University
Tower Club. Coordinate solicitation strategies for prospects for
regional, college and unit public affairs directors, as well as Major and
Special Gifts staff.
Requirements: Bachelor's or equivalent. 3-5 years successful fundraising in alumni campaigning. Excellent management and communication skills. Ability to motivate people and work creatively.
Moderate travel. Weekends and evenings involved. Send cover
letter and resume to Cynthia Smithbower. Materials will be accepted
until March 9 or until a suitable candidate is found.

Senior Systems Analyst (PT0705) HRII

Mann Library-Statutory
Provide technical management, systems analysis and some programming support in developing an innovative electronic information delivery system for chemists. Deline system requirements; coordinate its implementation; and review and revise system working with staff, sponsors (BellCore and American Chemical Soc.) and researchers.

searchers.

Requirements: Bachelor's with significant coursework in computer or information science. Master's desirable. 3-5 years experience in programming, systems analysis, or related fields, including 1-2 years in technical or project management. Knowledge of at least 2 high-level programming languages. Knowledge of microcomputers, workstations, and UNIX operating systems highly desirable. Send cover letter and resume to Sam Weeks.

Head Coach Track and Field (PA0702) HRII

Head Coach Track and Field (PAO/U2) HHI Athletics-Endowed Responsible for directing men's and women's intercollegiate cross country and track and field teams in accordance with NCAA regula-tions and lvy League and University policies. Requirements: Bachelor's required. Master's preferred. Creden-tials should reflect proven success in coaching, recruiting, and working with student athletes in a demanding academic environ-ment. College coaching experience preferred. Send cover letter and resume to Cynthia Smithbower.

Director of Leadership Gifts (PA0606) HRII
Public Affairs/Engineering-Endowed
Together with the Director of Development for the College of Engineering, the Director of Leadership Gifts will oversee the day-to-day operation of the College's fund raising efforts. DLG will take the lead role for the College in working with the Cornell Fund, Leadership Gifts (and planned giving) to identify, cultivate, and solicit support for the College.

College.

Requirements: Bachelor's or equivalent, graduate degree desirable. Minimum of 3-5 years of fund raising and alumni relations experience, or equivalent; experience in working with volunteer (alumni and friends) groups. Excellent communications (written and oral) and interpersonal skills. Send cover letter and resume to Cynthia Smithbower. Materials will be accepted until March 1 or until a suitable candidate is found.

Assistant Director (PA0604) HRII
Cornell United Religious Work-Endowed
Responsible for coordination of pluralistic religious staff and cooperative programs, the operation of Sage Chapet; administration of services for African-American students; work with parallel staffs in student services.

Requirements: Master's or equivalent in religion or theology. Managerial experience and higher education work in pluralistic environment highly desired. Eiturgical skills desired. Send cover letter and resume to Cynthia Smithbower. Materials will be accepted until April 15 or until a suitable candidate is found.

Senior Research Support Specialist (PT0315) HRII
Materials Science Center-Endowed
Manage and extend state-of-the-art Electron Microscopy Facility for
the support of the research program of the Materials Science Center.
Requirements: Master's in material science or physics or equivalent required. PhD preferred. Minimum 2 years experience as a
postdoc in relevant electron microscopy user field. Send cover letter
and resume to Sam Weeks.

Million Research Awards Program. Develop corporate fund raising effort and pursue foundation and additional governmental support. Provide general administrative support to program including writing technical and program reports, and monitor budgets. Requirements: Bachelor's minimum, Master's engineering or MBA preferred. Considerable related experience including 2 years of administrative or business experience with an educational program. Ability to understand and communicate technical and scientific issues essential. Send cover letter and resume to Sam Weeks.

Project Leader III (PT0702) Level 37 CIT/IR-Endowed

Project Leader II (PT0314) Level 36
CIT/IR-Endowed
This is a high visibility position both at Cornell and nationally. Plan, supervise and coordinate a major development project using micro, mini, and mainframe technologies. Supervise development activity at Cornell and other universities and coordinate vendor support. Requirements: Bacheior's or the equivalent combination of education and experience. Extensive computer and systems work including design and implementation of major systems. Experience in supervision, project management and micro-based office systems also needed. Work with both IBM and Macintosh micro computers. Technical knowledge of the Cornell computing and network environment, Cornell operating systems. ADABAS and NATURAL. Send cover letter and resume to Sam Weeks.

Project Leader II (PT9603) Level 36
CIT/IR-Endowed
Responsible for maintenance, changes and enhancements of Student Information System. Assist in definition and implementation of interfaces with SIS.

Recultimentary. Rechelor's or equivalent required. 3.5 years of

erraces with 515.

quirements: Bachelor's or equivalent required. 3-5 years of perience in programming, analysis, design and project management required. Considerable experience with large interactive

application systems required. Proven ability to deal effectively with users, programmers, peers and management required. Knowledge of IBM MVS operating system and JCL required. Experience with student records system or other student-related systems desirable. Experience with microcomputers as user workstations desirable. Knowledge of CMS, PL/1 and ADABAS/Natural desirable. Send cover letter and resume to Sam Weeks.

Senior Technical Consultant (PT0301) Level 35
Information Technologies-Endowed
Provide high-level expertise and leadership in evaluating and supporting personal productivity tools: word processing, desktop publishing, spreadsheet and microcomputer database packages for varied workstations, including IBM and Macintosh micro-computers. Participate in strategic decision-making concerning productivity tools and their support on campus. Prepare consulting materials, workshops and documentation for colleagues and campus.
Requirements: Bachelor's or equivalent experience. High level expertise. 5-7 years related experience including microcomputer experience: IBM and Macintosh productivity tools including word processing, desktop publishing, spreadsheets and databases. Computing Services experience preferable. Leadership, organizational and communication skills. Writing samples may be requested. Send cover letter and resume to Sam Weeks.

Technical Consultant II (PT0503) Level 33
Information Technologies-Endowed
Provide expertise in evaluation and supporting personal productivity
tools: word processing, spreadsheet, and database packages for
varied workstations, including IBM and Mac computers. Do consulting, workshops and documentation for colleagues and campus.
Requirements: Bachelor's or equivalent. 2-3 years related IBM and
Macintosh microcomputer experience in productivity tools including
word processing, desktop publishing, spreadsheet and databases.
Writing sample may be requested. Send cover letter and resume to
Sam Weeks.

Systems Programmer/Analyst II (PT9608) Level 33
Engineering College Educ. Computing-Endowed
Provide system management for a network of UNIX-based graphics
workstations; install and maintain system software and utilities, keep
hardware operational and assist and consult with staff and users.
Requirements: Bachelor's in computer science or equivalent. 2-3
years programming: 2 years system management, familiarity with
UNIX (prefer several versions), C. HOOPS and interactive graphics;
excellent communication and interpersonal skills. Send cover letter
and resume to Sam Weeks.

Executive Staff Assistant (PC0714) HRI
University Professor-Endowed
Provide staff support for chair professor on a daily basis in manuscript preparation, correspondence, budget preparation and accounting; student contact; supervision of part-time student and clerical staff when necessary; communicate with faculty and staff within the university; extensive external contacts both nationally and internationally.
Requirements: Bachelor's or equivalent. 3 years administrative office experience. Strong organizational, interpersonal and communication (written and oral) skills. Familiarity with Cornell policies and procedures. Submit employee transfer application, cover letter and resume to Esther Smith, Staffing Services, EHP. External applicants submit cover letter and resume to Esther Smith, Staffing Services, 160 Day Hall. Minorities are particularly encouraged to apply.

Copy Editor (PC0728) HRI
University Relations/Publications Services-Endowed
Edit and proof manuscripts, assist in producing subsequent production stages, and work with clients, designers, and support personnel during the entire process of producing printed publications.
Requirements: Bachelor's. Working experience with computers and wordprocessing programs with specific experience with Macintosh computers and Microsoft Word preferred. A sensitivity to language, nuance, and tone. A high regard for precision and accuracy. Attention to detail and fact. Ability to work both independently and closely with others. Ability to organize and administer multiple tasks and procedures. Send cover letter and resume to Esther Smith.

Academic Counselor/Freshman Football Coach (PA0703) HRI Athletics-Endowed
Head Coach Freshman Football Team: be responsible for directing freshmen football program in accordance with NCAA/Ivy League and University policies. As Academic Counselor: be responsible for management of department's academic counseling program for student-athletes. Provide oversight of support systems such as tutorial services, academic progress reports. Provide NCAA compliance support to Assistant Athletic Director in areas of satisfactory progress.

progress.

Requirements: Bachelor's. Master's preferred. Coaching experience at HS or college required. Teaching and/or counseling experience at HS or college preferred. Send cover letter and resume to Cynthia Smithbower.

Media Rooms Supervisor (PA0705) HRI
Uris Library/CUL-Endowed
Under the general direction of the Uris Library Director, responsible for the administration of the Media Rooms, including 200 square foot facility, 3 FTE staff, 20,000 item collection, 50+ major equipment items. Responsible for staff management, materials and equipment selection and cataloging, planning and formulation of policies and procedures. Has major role in implementation of currently ongoing grant funded renovation project. Function with only general supervisory oversight and exercise considerable judgment and initiative. Requirements: Bachelor's or equivalent. 2-3 years experience with audio-visual materials and equipment. Ability to employ microcomputer applications software such as spreadsheets and database management packages. 1-2 years supervisory experience helpful. Send cover letter and resume to Cynthia Smithbower.

and alteration projects that relate to Civil Engineering Section.
Perform surveying and mapping in support of new projects and the existing physical plant.
Requirements: Associate's in Civil or Construction Technology or equivalent combination of technical education and experience. Must be knowledgeable in technical math, surveying techniques and drafting, and construction materials. Must have valid driver's license. Send cover letter and resume to Cynthia Smithbower.

Research Support Specialist I (PT0402) HRI
Biotechnology Program-Endowed
Independently operate the Monoclonal Antibody Facility and work
with facility users. Significant teaching and explaining specialized
techniques to faculty and graduate students.
Requirements: Bachelor's in cell biology, animal science or related
field or equivalent. 2-3 yrs experience in mammalian cell and tissue
culture, specializing in monoclonal antibody production. Immunochemical procedures and immunoassay development highly desirable. Requires ability to work alone and tackle new technologies with
minimal supervision. Send cover letter and resume to Sam Weeks.

Applications Programmer II (PT0311) HRI
Agricultural Economics-Statutory
Provide computer programming support to faculty, professional staff
and graduate students; assist users with a variety of mainframe, mini
and micro computer applications in research, teaching and extension activities; analyze, design, implement and maintain new applications programs and systems; consult with users; simple micro
computer repair tasks.
Requirements: Bachelor's or equivalent with computing-related
courses or equivalent. 2-3 years experience in both micro and
mainframe applications is preferred. Entry-level skills in Fortran and
PL/I, and proficiency in PASCAL programming languages. Competency in use of software packages. Strong interpersonal skills are
important. Experience in an academic organization is desirable.
Send cover letter and resume to Sam Weeks.

Research Support Specialist I (PT0309) HRI
Agriculture and Biological Engineering-Statutory
Do lab tests on highway materials; assist local government personnel by teaching workshops on materials and providing technical
assistance on highway engineering problems; assist faculty and
students with highway research projects; and help with teaching
classes and preparing labs. Until 12/31/90.
Requirements: Bachelor's in civil engineering or equivalent. Valid
NYS driver's license. 2-3 years experience in public works or
highway construction. Some technical training work. Send cover
letter and resume to Sam Weeks.

Research Support Specialist (PT0306) HRI Equine Drug Testing-Statutory Operate and maintain Mass Spectrometer, Gas Chromatograph and HPLC. Isolate and purify drugs and their metabolites for analytical

analysis.

Requirements: Bachelor's in organic chemistry or equivalent experience. 2-3 years work with thin layer chromatography and basic knowledge of drug metabolism. Send cover letter and resume to Sam Weeks.

Research Support Specialist I (PT0212) HRI
Animal Science-Statutory
Provide supervisory and technical support for research programs
involving the design and analysis of Dairy Management Systems
utilizing the NY Dairy Herd Improvement database. Analyze and
develop dairy herd performance measures that will predict economic
returns to the dairy enterprise. Develop and program software to
assist with dairy herd management.
Requirements: Bachelor's or equivalent in animal science or
agricultural economics. High level language, e.g., "C" programming
experience, ability to use SAS, understanding of advanced computing techniques such as expert systems. Dairy farm background or
experience helpful. Send cover letter and resume to Sam Weeks.

Supervisor, Technical Services III (PT0107) HRI
Division of Biological Sciences-Endowed
Manage instrumentation repair and development facility. Assemble, repair and maintain analog, digital, and mechanical lab equipment. Design specialized equipment for researchers and technicians.

Requirements: Associate's or equivalent and 2 years of repair and maintenance experience are required. Bachelor's preferred. Knowledge of lab equipment and computer based data acquisition are very desirable. Good interpersonal and communication skills are essential. Send cover letter and resume to Sam Weeks.

Senior Writer Il/Editor (PC9504) HRI
University Development-Endowed
Take ultimate responsibility for producing 4 to 6 annual issues of
Communique—University Development's chief communication to
12,000+ donors and volunteers—either delegating or taking direct
responsibility for all stages from conception through publication.
Write proposals, biographies, and draft presidential correspondence.
Manage department in director's absence, provide guidance to staff
members on fund-raising and communications issues, and represent department at occasional meetings.
Requirements: Bachelor's or equivalent. 2-3 years related writing/
editing experience. Experience in publications management. Sophisticated knowledge of fund-raising and communications strategies. Superior writing and editing ability. Ability to sustain high work
quality and meet deadlines during peak work-load periods. Familiarity with Cornell's academic and administrative departments helpful. Send cover letter, resume and writing sample to Esther Smith,
Staffing Services, EHP, Ithaca, NY 14850.

Executive Staff Assistant II (PC0614) HRI
Cornell Mfg. Eng. Productivity Program (COMEPP)-Endowed
Assist Director in overall management of COMEPP and CPA (Cornell Programmable Automation). Responsible for managing departmental budgets, coordinating external education programs, administering industrial affiliate program, preparing reports and publicity
material.

material.

Requirements: Bachelor's or equivalent. 3-4 years related experience in administrative position. Experience with budget preparation and management. Superior written, organizational and interpersonal skills. Familiar with Mac programs (Word, Excel, Hypercard) and advantage. Regular Cornell employees preferred. Send employee transfer application, cover lefter and resume to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

Administrative Supervisor-Real Estate (PA0704) HRI Real Estate-Endowed Process real estate transactions; ensure timely closings of real estate transactions; assist in the acquisition, disposition and management of University real estate. Requirements: Associate's degree (business preferred). Notary public certification or willingness to obtain. 2 years real estate or related business experience. Skills in real estate, contracts and finance. Send cover letter and resume to Cynthia Smilhbower. Materials will be accepted until March 1 or until a suitable candidate is found.

## **Professional Off-Campus**

## **Professional Part-time**

Technical Consultant II (PT0604) Level 33
CISER-Endowed
Do contract computing consulting for CISER members and their affiliates; provide internal computing support for CISER staff; prepare printed documentation, and organize special educational activities for users. Mon-Fri, 4 hours per day.

Requirements: Bachelor's or equivalent in computer science or social science required. 2-3 years related experience with maintrame data tape and file management. Microcomputer IBM-PC and Apple experience required. CMS, SAS/SPSS packages, JCL and MVS expertise required. Send cover letter and resume to Sam Weeks.

## **Professional Temporary**

Applications Programmer/Analyst I (PT9707) Level 32
Public Safety-Endowed
Under direct supervision, design, develop, modify, maintain and document computer applications as needed for the Division of Campus Life. Temporary until 7/1/90.
Requirements: Associate's or equivalent with computer related courses. 1 year programming experience preferred; some working knowledge of applications for batch and interactive systems, JCL, database concepts. Hardware experience on IBM systems/36 and micros preferred. COBOL and 1 other programming language required. Send cover letter and resume to Sam Weeks.

Technical Consultant I (PT0109)

## Technical

Research Aide, GR18 (T0507)
Lab of Ornithology-Statutory
Minimum Biweekly Salary: \$513.94
Create and analyze computerized records for Bird Population Studies by editing data records and running data through analysis programs. Handle written and oral correspondence for the program.

I year appointment.

Requirements: Associate's or equivalent in biological sciences, wildlife management, resources management or related field. Able to identify all species of birds likely to occur in the Cayuga Lake Basin, visually and/or by their sounds. Aptitude and enthusiasm for creative use of both micro and mainframe computing environments and software. Knowledge of identification and habitat ecology of North American birds. Send cover letter and resume to Sam Weeks.

Animal Technician, GR18 (T0106)
Lab Animal Services-Statutory
Minimum Biweekly Salary: \$513.94
Provide care (feed, water, clean and monitor) for research animals
following strict protocols for sterile or disease control environments
and regulations for animal welfare. Maintain animal records. May
include assisting Vets in treating and vaccinating animals. 5 days pef
week including weekends.
Requirements: HS diploma or equivalent. Associate's in Animal
Science required. Assistant animal certificate helpful. Knowledge of
a variety of lab animals and animal breeding required. 1 year animal
experience. Ability to lift 50 lbs. Pre-employment physical and all
necessary immunizations required.

Technician, GR20 (T0706)
Floriculture and Ornamental Horticulture-Statutory
Minimum Biweekly Salary: \$558.78
Conduct field, greenhouse and lab experiments designed to evaluate the effects of weeds and weed control agents (including herbicides and biological control agents) on plant growth. Apply and evaluate herbicides and biological control agents for weed control and crop safety. Physiological measurements of plant responses to herbicides and weeds, data analysis and summary. Supervise 2 student employees, interact with Graduate students, other faculty, and department support staff. Some travel within New York State will be required.

be required.

Requirements: Bachelor's in horticulture, agronomy, plant science or related field or equivalent. 1 or more years of the following experience: weed identification and control, micro-computers, macro-computers, pesticide application, physiology lab skills, culture and maintenance of turfgrass and ornamentals. NYS driver's license is required. Must have (or be capable of obtaining) a NY Commercial Pesticide Applicator's certification in categories 3A and 10. Send cover letter and resume to Sam Weeks.

Technician, GR20 (T7711)

Technician, GR20 (17711)
Animal Science-Statutory
Minimum Biweekly Salary: \$558.78
Carry out independent research procuring embryo material from animals and performing morphological, biochemical and animal studies. Establish conditions for culture of embryo cell lines.
Requirements: Bachelor's or equivalent in biology, physiology, or microbiology or related field. 1-2 years experience in working with mammalian embryos and at least 1 year working in tissue culture desirable. Additional experience in biochemistry/molecular biology highly desirable. Send cover letter and resume to Sam Weeks.

Electrical Technician, GR20 (T0112)
Hotel Administration-Endowed
Minimum Biweekly Salary: \$575.30
Provide support for all Macintosh microcomputers (this includes programming, software and hardware support), and coordinate the support of the Appletalk network for faculty and staff.
Requirements: Bachelor's or equivalent coursework in computing or related fields. 1 year related experience with computer facility operations. Familiarity with hardware maintenance activities required. Experience with the Macintosh required. Some knowledge of networks desired. Send cover letter and resume to Sam Weeks.

Histology Technician, GR20 (T0115)
Vet Pathology-Statutory
Minimum Biweekty Salary: \$558.78
Prepare high quality microscopic slides for interpretation by Pathologist. Primary duties include embedding, sectioning and staining of animal tissue sections.
Requirements: Associate's or equivalent in medical lab technology with coursework in histological techniques. HT (ASCP) certification or eligible preferred. 1-2 years experience as a histology technician in a hospital or research lab preferred. Send cover letter and resume to Sam Weeks.

Technician, GR20 (T0703)
Plant Breeding and Biometry-Statutory
Minimum Biweekly Salary: \$558.78
Extract DNA, run and blot gels, isolate and screen plasmoid clones, radiolabel probes, manage computer data file and analyze genetic data on computer. Assist in overall maintenance of lab including preparing solutions, ordering supplies and monitoring satety. May involve some supervision of graduate students. Continuation contingent upon availability of funds.
Requirements: Bachelor's in biology, genetics, biochemistry or related discipline. Minimum 1-2 years experience. Send cover letter and resume to Sam Weeks.

Computer Operator, GR21 (T0504)
Dining Services-Endowed
Minimum Biweekly Salary: \$599.73
Assist the system manager. Responsible for reports, monitoring equipment, maintenance, supplies, staff support, and output audits.
Requirements: Associate's or equivalent with related computer studies. Six months to 1 year related experience. Skills of basic computer operator, supporting systems including mini-micro computers, JCL, card readers, printers, modems, telecommunications lines and channel interfaces. Strong interpersonal and communication skills. Send cover letter and resume to Sam Weeks.

Technician, GR21 (T0405)

Clinical Sciences-Statutory
Minimum Biweekly Salary: \$582.29
Supervise research lab in equine reproduction. Assist with surgery, perform lab techniques, analyze data, and assist in teaching labs.
Requirements: Bachelor's or equivalent in animal science or related field. 2 years experience with embryo transfer and/or mammalian cell culture. Microcomputer skills: word processing, database management, data analysis, graphics and bibliographic searches very desirable. Experience handling and treating large animals. Send cover letter and resume to Sam Weeks.

Research Equipment Technician, GR22 (T0406)
Nuclear Science and Engineering-Endowed
Minimum Biweekly Salary: \$625.24
Build research lab apparatus using standard machine shop equipment; use and maintain research lab equipment; operate low power nuclear reactors; operate gamma irradiation facility; use radiation safety equipment.

satety equipment.

Requirements: Associate's in mechanical and/or electrical technology or equivalent experience. 3 years related experience. Nuclear reactor operator license or certification highly desirable. Knowledge of use of machine shop tools and research lab test equipment. Willingness and ability to learn procedures and methods of radiation safety and reactor operations and to pass US operator license examination (after training). Send cov letter and resume to Sam Weeks.

Computer Production Control, GR22 (T0202)
Finance and Business Services-Statutory
Minimum Biweekly Salary: \$607.04
Set-up, monitor and operate all data processing equipment within terminal area. Responsible for accurate processing of all systems in productional status. Work various shift changes to cover heavy processing loads. Maintain operational documentation as necessary. Second shift.
Requirements: Associate's in data processing or equivalent experience. 2 years production control or related experience. Knowledge of MVS/JCL VM/CMS, System 36, AMP ADABAS systems. Send cover letter and resume to Sam Weeks.

Computer Operator, GR22 (T9607)
Animal Science-Statutory
Minimum Biweekly Salary: \$607.04
Responsible for computer night shift, putting out daily run, distribute output and listings, run tests and jobs submitted by programmers and keep shelves supplied with forms. Mon-Wed, 11:30 pm-8:00 am; Thur and Fri, 11:30 pm-7:30 am
Requirements: Associate's or equivalent in data processing. 3

years experience desirable particularly with IBM mainframe. Send cover letter and resume to Sam Weeks.

Technician, GR24 (T0502)
Diagnostic Lab-Statutory
Minimum Biweekly Salary: \$662.90
Assist with management of Automated Serology Section, i.e., training and scheduling of technicians. Direct, evaluate and trouble shoot routine tests. Develop new test and technology, and conduct assays. Data reduction and critical evaluation of results using computerized graphics and statistical software. Assist with evaluation of literature and writing of publications. Rotate into DL sections when heavy workload.

workload.

Requirements: Bachelor's required or equivalent. Master's preferred. Minimum of 5 years in developing/conducting enzyme immunoassays. Experience with kinetics ELISA systems highly desirable. Send cover letter and resume to Sam Weeks.

Electronics Technician, GR24 (T0407)
Biomedical Electronics-Statutory
Minimum Biweekly Salary: \$662.90
Provide preventive maintenance, repair, modification and design of medical electronics instrumentation.
Requirements: Associate s in electronics technology, BMET certification preferred, with 2-4 years experience in Medical Instrumentation. Need a working knowledge of: sophisticated test equipment and software; laser and other optical technology; electromechanical equipment; and machine shop practices. Must have manual dexterity and be computer literate. Send cover ltr & resume to Sam Weeks.

CHESS Operator, GR24 (T0404)
CHESS-Endowed
Minimum Biweekly Salary: \$682.77
Interact with user groups on technical and scientific problems.
Implement safety codes. Responsible for covering CHESS system malfunctions and software problems associated with instrument control. May assist in experimental programs. Some evening and weekend hours required.

Requirements: Bachelor's or equivalent in technical field such as engineering or physics. Experience not needed. Good mechanical and lab skills. Programming experience preferred. Send cover letter and resume to Sam Weeks.

Technician, GR24 (T8911)
Neurobiology and Behavior-Endowed
Minimum Biweekly Salary: \$682.77
Work in experiments for electron and light microscope autoradiography and finestructure. Help prepare new tissue preparations for scanning electron microscope.
Requirements: Bachelor's or equivalent experience in physical sciences (neurobiology or biochemistry). 5+ years experience. Use of electron microscope, scanning EM, microtomes, tissue. Send cover letter and resume to Sam Weeks.

## **Technical Off-Campus**

Technical Assistant, GR17 (T0701)
Plant Pathology/Geneva-Statutory
Minimum Biweekly Salary: \$495.36
Assist with technical aspects in preparation of plant and fungal
materials for lab studies of pathogens of grapevines. Assist in
assessment of disease levels in field plots. 9 months; renewal
contingent upon satisfactory performance and available funding.
Requirements: HS diploma required. Associate's or equivalent in
horticulture, plant science or biology preferred. Work experience in
plant pathology desirable. Send cover letter and resume to Sam
Weeks.

## **Technical Part-time**

Animal Technician, GR18 (T0704)

Vet Microbiology-Statutory
Minimum full-time equivalent: \$513.94

Provide care (feed, water, clean and monitor) for small research
animals (canines and rodents) following strict protocols for sterile or
disease control environments and regulations for animal welfare. 24
hour work week (weekends and holidays).

Requirements: HS diploma or equivalent. Associate's preferred.
Knowledge of a variety of lab animals and animal breeding required.
Pre-employment physical required. Must be able to lift up to 100 lbs.
Send cover letter and resume to Sam Weeks.

Technician, GR21 (T9612)
Avian and Aquatic Animal Medicine-Statutory
Minimum full-time equivalent: \$582.29
Provide technical assistance in ultrastructural studies of fish pathology. Assist in all phases of transmission and scanning electron microscopy sample preparation, examination of specimens, photography, ultramicrotomy, preparation of prints of electron micrographs. Develop histochemical assays for ID of cell types in fish histo sections. 30 hours per week between 8 am-5 pm
Requirements: Bachelor's required in 1 of the biochemical sciences. 1-2 years related experience in all phases of scanning and transmission electron microscopy. Experience in immunoperoxidase techniques desired. Send cover letter and resume to Sam Weeks.

Technician, GR22 (T0506)
Vegetable Crops-Statutory
Minimum full-time equivalent: \$607.04
Provide technical assistance for physiological studies with potatoes.
Apply experimental treatments in growth chambers and greenhouses; perform biochemical and virological assays; maintain in vitro cultures; and summarize and analyze data on microcomputers. 20

Hours per week.

Requirements: Bachelor's or equivalent in biochemistry, chemistry, or biology with training or experience in all 3 of these areas preferred. Graduate training highly desirable. 2 years experience on job or in coursework with as many of the following areas as possible: aseptic techniques, high pressure liquid chromatography, plant growing, microcomputers. Send cover letter and resume to Sam Weeks.

## Office Professionals

Approximately half of all University openings are for Office Profesionals. Individuals with secretarial, word processing (IBM PC,
Alacintosh, Wang, Micom), data entry, technical typing, or medium
o heavy typing (45-60+ wpm) are encouraged to apply.
All external candidates must have a completed signed employnent application on file with Staffing before they can be interviewed
or a position. Employee candidates should submit an employee
ransfer application and cover letter, if requested, for each position in
which they are interested.

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Office Assistant, GR16 (C0724)
Animal Science-Statutory
Minimum Biweekly Salary: \$477.46
Assist in mailing computer reports and fi

lata: copy; file. Other duties as assigned. Mon, Tues 7-4; Wed, 7:30ents: HS diploma or equivalent. Some office experience Dairy background and basic math abilities helpful. Light

Secretary, GR17 (C0704)
LR-Collective Bargaining, Labor Law and History-Statutory
Minimum Biweekly Salary: \$495.36
Provide clerical support for department secretary, which will include
working for 3 professors, one of whom is director of ILR's Internship
Program. Word processing; type and proofread correspondence,
coursework, textbook revisions, speeches, forms, manuscripts,
reports, etc.; transcription from tapes; handle confidential material.
Work on all aspects of internship program including telephone
contact with sponsors and students; copy, file, mail, receptionist, etc.
Other duties as assigned.
Requirements: HS diploma or equivalent. Strong secretarial skills
Preferred. Some related office experience preferred. Demonstrated
organizational and communication (oral and written) skills. Knowledge of a variety of word processing packages using PC-Wordperfect, etc. Medium typing.

Secretary, GR17 (C0702)
ILR Extension and Public Service-Statutory
Minimum Biweekly Salary: \$495.36
Act as receptionist and provide clerical support to staff of the ILR
Conference Center. Answer telephone; copy; file; prepare kits,
nametags, certificates for conferences; handle mail, order office
supplies, maintain xerox machine. Other related office duties as
assigned.

assigned.

Requirements: HS diploma or equivalent. Some office experience preferred. Able to work with public. Light typing.

Office Assistant, GR17 (C8114)
Campus Store-Endowed
Minimum Biweekly Salary: \$517.65
Serve as administrative office receptionist and telephone operator,
providing general office support including work with Macintosh
computer using Microsoft Word and Excel. Mon-Fri, 8-5:30 variable

Requirements: HS diploma or equivalent. Minimum 1 year office clerical experience. Knowledge of Mac computers a must. Experi-

ence with CU phone system a plus. Must possess good communication, organizational and interpersonal skills. Medium typing.

Office Assistant, GR17 (C0627)
JGSM-Endowed
Minimum Biweekly Salary: \$517.65
Responsible for maintaining, under supervision, the Administrative
Science Quarterly's subscription list by sorting and coding deposits:
set up new subscriptions: update accounts; prepare invoices and
mailing labels: handle related correspondence.
Requirements: HS diploma or equivalent. 1 year related office
experience. Excellent organizational skills. Ability to follow instructions very important. Knowledge of computers helpful. Medium
typing.

Accounts Assistant, GR17 (C0626)
Natural Resources-Statutory
Minimum Biweekly Salary: \$495.36
Responsible for expediting payments and billings; data entry and account reconciliation using Lotus 1-2-3; spreadsheets; maintain accounting files; act as receptionist.
Requirements: HS diploma or equivalent. Up to 1 year related accounting experience preferred. Hands on computer experience with spreadsheets and data entry. Experience with several software programs. State accounting knowledge helpful. Medium typing.

Telephone Receptionist, GR17 (C0610)
Undergraduate Admissions-Endowed
Minimum Biweekly Salary: \$517.65
Primary responsibility is to answer the 3 main phone lines in the
admissions office and to back up the front desk receptionist. In
addition, this position does data entry of admissions inquiries.
Requirements: HS diploma or equivalent, 6 months-1 year related
experience. Excellent interpersonal and communication skills.
Telephone experience. Knowledge of Cornell a plus. Light typing.

Data Entry Operator, GR17 (C0421) Acquisitions/CTS/CUL-Endowed Minimum Biweekly Salary: \$517.65 Enter book and order records into the NOTIS on-line acquisitions

system.

Requirements: HS diploma or equivalent. Some experience preferred. Familiarity with computer terminals. Heavy typing. Send cover Itr & resume to Esther Smith, Staffing Services, 160 Day Hall.

Office Assistant, GR18 (C0709, C0710)
Summer Session-Endowed
Minimum Biweekly Salary: \$529.35
Serve as receptionist; process mail and requests for information; order supplies; general typing; provide clerical support to registrar. Assist registrar in registration process.
Requirements: HS diploma required. 1 year related office experience required. Some college coursework preferred. Able to work with diverse public. Excellent interpersonal communication skills required. Experience with Wordperfect desirable. Able to set priorities and work independently under pressure. Some familiarity with Cornell desirable. Medium typing.

Collections Assistant, GR18 (C0723)
Law Library/CUL-Endowed
Minimum Biweekly Salary: \$529.35
Responsible for overseeing and executing the updating of American
legal materials of the Law Library collection. Responsible for
overseeing Law Library operations on Saturdays; i.e., opening and
closing the building, and supervising the Circulation Desk.
Requirements: Associate's or equivalent. Previous work experience preferably in a library. Attention to detail. Good organizational
and communication skills. Able to work with a variety of people in a
public service setting and prioritize a variety of tasks. Light typing.
Send cover letter and resume to Esther Smith, Staffing Services, 160
Day Hall.

Secretary, GR18 (C0717)
ILR-Labor Economics-Statutory
Minimum Biweekly Salary: \$513.94
Produce professional quality word processing using Macintosh and IBM compatible computers, typewriter, dot-matrix, and labor printers. Type, check over and proofread correspondence, lectures, coursework, manuscripts containing mathematical equations, statistical tables, resumes and travel reports; handle confidential material; locate and distribute forms, coursework and papers; make appointments and schedule business travel.

Requirements: HS diploma or equivalent. Some college coursework preferred. 1-2 years office experience. Knowledge of Macintosh and IBM compatible computers-Microsoft Word, Excell, Wordperfect. Medium typing.

Secretary, GR18 (C0625)

Secretary, GR18 (C0625)
Education-Statutory
Minimum Biweekly Salary: \$513.94
Provide secretarial support for Agricultural and Occupational Education program area. Type and duplicate coursework, general correspondence and research projects; make travel arrangements, reservations and schedules; keep competency acquisition files; arrange for workshops and seminars; assist in preparing, duplicating and distributing a quarterly professional journal.
Requirements: HS diploma or equivalent. Some college coursework preferred. 1 year related office experience desirable. Able to interact effectively with a variety of people in a busy office. Strong organizational, interpersonal and telephone skills.

Telephone/Word Processor, GR18 (C0608)
Financial Aid/Student Employment-Endowed
Minimum Biweekly Salary: \$529.35
Responsible for answering line switchboard for both Financial Aid
and Student Employment. Using AT&T PC, responsible for typing,
editing, and updating correspondence and forms. Other duties as
assioned.

assigned.

Requirements: HS diploma or equivalent. Some college course-work preferred. 1 year related experience. Excellent telephone skills. Good organizational skills. Able to interact with public and large staff. Able to prioritize and meet deadlines. Heavy typing.

Secretary, GR18 (C0620) JGSM-Endowed

Secretary, GR18 (Cubzu)
JGSM-Endowed
Minimum Biweekly Salary: \$529.35
Provide clerical and secretarial support for the Career Services
Office. Serve as receptionist for Career Office.
Requirements: HS diploma or equivalent. Some college coursework preferred. 1-2 years secretarial/office experience. Knowledge
of memory typewriter and/or other word processing equipment.
Good communication (written and oral) skills. Heavy typing.

Office Assistant, GR18 (C0603)
Department of Art-Endowed
Minimum Biweekly Salary: \$529.35
Provide administrative and clerical support for Administrative Supervisor and Department faculty, and act as Graduate Field Secretary.
Requirements: HS diploma or equivalent. Some college coursework desirable. 1-2 years office experience, preferably at an academic institution. Knowledge of personal computer (preferably Macintosh) for word processing. Excellent interpersonal and organizational skills. Able to handle highly confidential information. Medium using.

Secretary, GR18 (C0616)
Rural Sociology-Statutory
Minimum Biweekly Salary: \$513.94
Provide secretarial support for 3 faculty. Typic

and correspondence. Travel arrangements; telephone coverage Other duties as assigned.

Requirements: HS diploma or equivalent. Some college cours work preferred. 1 year related experience. PC experience, knowledge of Microsoft Word helpful. Able to work independently. Media typing.

Accounts Assistant, GR18 (C0507)
Cooperative Extension Administration-Statutory
Minimum Biweekly Salary: \$513.94
Ensure the prompt payment of all obligations (except payroll) incurred by on campus Extension Administration staff. Audit, code and approve standard and travel vouchers and Interdepartmentals for reimbursement according to State, Federal and College regulations; process payment of monthly Cornell University Stores billis; examine and process billings for fleet expenses for all on campus Extension offices; liaison with Telecommunications for Extension Administration Offices.

Requirements: HS diploma or equivalent with at least 1-2 years

tion Offices. HS diploma or equivalent with at least 1-2 years experience in accounting. Some college coursework preferred. Knowledge of Cornell accounting systems preferred. Experience in voucher preparation and federal/state regulations governing accountability and expenditures. Light typing.

Secretary, GR19 (C0707)

Secretary, GR19 (C0707)
Arts and Sciences Public Affairs-Endowed
Minimum Biweekly Salary: \$529.35
Provide administrative and secretarial support for the Director of
Public Affairs and the Director of Alumni Affairs as well as two
Assistant Directors. Arrange meetings, events, staff travel; assist
with gilt processing and tracking. 9 month position.
Requirements: HS diploma or equivalent. Some college coursework preferred. 2 years secretarial experience required. Good
typing, filing, and telephone skills essential. Ability to work on
projects independently and under deadlines. Knowledge of IBM
computer and its applications necessary. Medium typing.

Office Assistant, GR19 (C0725, C0726)
CIT-MOS/Consumer Services-Endowed
Minimum Biweekly Salary: \$551.86
Provide consulting and process orders/sales transactions as an integral part of the CIT/MOS resale operation. This includes identification of customer computing needs, as well as providing technical information and performing demonstrations and configuration assistance.

Requirements: HS diploma or equivalent. Some college course work preferred. 2 years related experience. Excellent communication skills and ability to work with a range of clients in a hectic, fast

paced customer service environment. Hands-on experience with micros required as well as an overall interest in learning about information technologies and software application. Light typing. Send cover letter and resume to Esther Smith, Staffing Services, 160 Day Hall.

Audio-Visual Aide, GR19 (C0718)

Audio-Visual Aide, GR19 (C0718)
Media Services-Statutory
Minimum Biweekly Salary: \$535.78

Oversee audio visual facilities and equipment for faculty and staff in
College of Agriculture and Life Sciences. Provide counseling and
training for faculty, students, and staff in effective use of audio visual
systems: operate and maintain equipment; maintain inventory records; schedule equipment and facilities usage.
Requirements: HS diploma or equivalent. 2 year degree in
communication or audio-visual technology desirable. Experience in
maintaining and repairing audio visual equipment. Good interpersonal skills required. Able to lift miscellaneous audio-visual equipment. Must be available for some nights and weekend work. Send
cover letter and resume to Esther Smith, Staffing Services, 160 Day
Hall.

Office Assistant, GR19 (C0705)
C.U. Press-Endowed
Minimum Biweekly Salary: \$551.86
Work with accounts receivable; review source documents; code
inventory master file; issue invoices and credit memos; review
shipping papers. Other various tasks.
Requirements: HS diploma or equivalent. Some college coursework preferred. 2 years related experience. Familiarity with computer and data processing procedures. Some accounting and
bookkeeping coursework desirable. Medium typing.

Building Coordinator, GR19 (C0713)
Dean's Office, Arts and Sciences-Endowed
Minimum Biweekly Salary: \$551.86
Coordinate the care and maintenance of Uris Hall. Key control; equipment maintenance and distribution; mail distribution.
Requirements: HS diploma or equivalent. Some college coursework preferred. Some computer background with Macintosh helpful. 2 years administrative experience. Ability to work well with faculty, staff and students is essential. Any related experience at Cornell is helpful. Regular Cornell employees preferred. Send employee transfer application, coverletter and resume to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

Office Assistant, GR19 (C0706)
C.U. Press-Endowed
Minimum Biweekly Salary: \$551.86
Work with accounts receivable; take phone orders; handle customer service questions; edit prepaid orders; work with convention orders; open and sort mail; type correspondence, etc.
Requirements: HS diploma or equivalent. Some college coursework preferred. 2 years related experience. Experience working with computers desired. Medium typing.

Accounts Assistant, GR19 (C0619)
Human Service Studies-Statutory
Minimum Biweekly Salary: \$535.78
Under the supervision of the Administrative Manager, monitor accounts, purchasing and billings; coordinate departmental business transactions and process payroll; inventory control and duties as assigned

Requirements: HS diploma or equivalent combination of education and experience required. Some college coursework preferred. 2 years related experience. Knowledge of Cornell Statutory Accounting System and bookkeeping skills desired. Experience with use of calculator and ability to use or learn financial software using the IBM PC and CUDA. Light typing. Send employee transfer application, cover letter and resume to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

Secretary, GR19 (C0618)
Cooperative Extension Administration-Statutory
Minimum Biweekly Salary: \$535.78
Function as team member in providing support services to the Office of the Director, Cornell Cooperative Extension; serve as receptionist and primary telephone contact for unit.
Requirements: HS diploma or equivalent. Some college coursework preferred. 2 years related secretarial experience at Cornell, required. Knowledge of Cornell and Cooperative Extension essential. Experience with IBM PC WordPerfect 5.0; strong communication and organizational skills. Ability to work in a team setting and maintain confidentiality are required. Heavy typing. Send employee transfer application, cover letter and resume to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

Administrative Aide, GR19 (C0617)
Cooperative Extension Administration-Statutory
Minimum Biweekly Salary: \$535.78
Functions as team member in providing support services to the
Office of the Director, Cornell Cooperative Extension; provide secretarial support to senior extension associate.
Requirements: HS diploma or equivalent. Some college coursework preferred. 2 years related secretarial experience at Cornell,
required. Knowledge of Cornell and Cooperative Extension essential. Experience with IBM PC WordPerfect 5.0; strong communication and organizational skills. Ability to work in a team setting;
maintain confidentiality are required. Heavy typing. Send employee
transfer application, cover letter and resume to Esther Smith, Staffing
Services, EHP, Ithaca, NY 14850.

Administrative Aide, GR19 (C0622)
Summer Session-Endowed
Minimum Biweekly Salary: \$551.86
Provide secretarial and accounting support including the typing of department course status letters, faculty contract letters, appointment forms, accounts payable, journal vouchers, and miscellaneous correspondence, update and maintain faculty and accounting databases; do filing and record keeping.
Requirements: HS diploma or equivalent. Some college coursework preferred. 2 years experience required. Excellent typing skills necessary. Must be detail-oriented and highly accurate. Able to use IBM PC with WordPerfect and Lotus 123 required. Knowledge of DBase helpful. Heavy typing. Send employee transfer application, cover letter and resume to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

Secretary, GR19 (C0621) JGSM-Endowed

JGSM-Endowed
Minimum Biweekly Salary: \$551.86
Responsible for providing wordprocessing, secretarial, and administrative support for faculty and their programs in research and teaching. This encompasses a broad set of responsibilities which includes execution and completion of all incoming work, and some technical

typing.

Requirements: HS diploma or equivalent. Some college course-work preferred. 2 years related secretarial office experience. Knowl-edge of wordprocessing computers. Heavy typing.

Secretary, GR19 (C0501) JGSM-Endowed

Secretary, GR19 (Cubur)
JGSM-Endowed
Minimum Biweekly Salary: \$551.86
Provide word processing (some technical typing) for a group of
faculty members using Mass 11 and Macintosh. Responsibility
includes supporting their research, teaching and other programs.
Requirements: HS diploma or equivalent. Some college coursework. 2-3 years secretarial/office experience. Knowledge of Mass,
11 word processor and Macintosh computers and technical typing 11 word processor and Macintosh computers and technical typing desirable. Must be able to set priorities and see all jobs through from beginning to end. Heavy typing.

Office Assistant, GR20 (C0504)
Office of Sponsored Programs-Endowed
Minimum Biweekly Salary: \$575.30
Perform a broad range of secretarial and office administrative
services in direct support for 1 or more Grant and Contract Officers.
Responsible for overall support of day-to-day, heavy workload.
Telephone coverage and follow-up; document generation and
some writing; mail screening; prioritizing and some initiating of
transactions; meeting and travel scheduling.
Requirements: Associate's or equivalent. 2 years related experience. Facility with word processing (preferably Word perfect), strong
interpersonal and communication skills. Able to organize and
prioritize varied tasks. Attention to detail. Strong proofing and good
writing skills. Knowledge of university procedures preferred. Me-

Accounts Coordinator, GR20 (C0306)
CIT-Management and Business Office-Endowed
Minimum Biweekly Salary: \$575.30
Provide accounting support for CIT's Management and Business
Office including payables, receivables and inventory accounts;
maintain CIT's capital equipment database and other database
maintained by CIT.
Requirements: Associate's in business or equivalent. 2 years
experience with Cornell's accounting system highly preferred.
Experience using microcomputers a plus. Good communication,
interpersonal and organizational skills required. Medium typing.
Send employee transfer application, cover letter and resume to
Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

Administrative Aide, GR20 (C8311)
Public Affairs/College of Arts and Sciences-Endowed
Minimum Biweekly Salary: \$575.30
Provide administrative support for Director of Development. Prepare
routine and special reports using the public affairs computer system;
supervise the gift acknowledgment system; responsible for office
accounting; supervise student employees. Assist in planning and
coordinating meetings including the college advisory meetings and
special events; coordinate mass mailings.
Requirements: Associate's or equivalent. Minimum 2-3 years of
administrative experience. Excellent organizational, interpersonal
and communications skills. Knowledge of Public Affairs and/or
Cornell helpful. Word processing/computer (IBM-PC) experience.
Able to work independently and meet deadlines. Medium typing.

Accounts Assistant, GR20 (C8613)
Finance and Business-Statutory
Minimum Biweekly Salary: \$558.78
Perform reporting and accounting functions associated with Federal
Retirement, Federal Life Insurance and Thrift Savings Plan Programs; process NYSERS documentation; assist in reconciliation of

accounts.

Requirements: Associate's in accounting or equivalent. Working knowledge of IBM PC. Good organizational and communication skills required. Knowledge in personnel and benefits counseling desirable. Able to work independently and set priorities. Light typing.

Administrative Aide, GR21 (C0623)
Arts and Sciences, Dean's Office-Endowed
Minimum Biweekly Salary: \$599.73
Provide administrative and secretarial support to the Dean and
Department Business Manager; maintain academic databases; office systems support specialist. Process and monitor the section's
General Expense account.
Requirements: Associate's or equivalent. 2-3 years administrative
experience, preferably in an academic environment. Excellent
communication (oral and written) skills. Detailed knowledge of
computer systems and software. Accounting experience preferred.
Heavy typing. Send employee transfer application, cover letter and
resume to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

Administrative Aide, GR21 (C0407)
JGSM-Endowed
Minimum Biweekly Salary: \$599.73
Provide administrative support for the corporate relations department: provide stewardship to supporting firms; plan, coordinate and implement corporate events; initiate and maintain corporate contacts in

in database. Requirements: Associate's or equivalent experience in public relations. Strong communication, interpersonal, organizational skills. Finesse with confidential and sensitive information are important requirements. 2-3 years administrative/secretarial experience. Must type 60+ wpm and be experienced with word processing; Mac experience helpful. Heavy typing.

Accounts Coordinator, GR21 (C9619)
Finance and Business-Statutory
Minimum Biweekly Salary: \$582.29
Responsible for maintenance of the Cornell Statutory equipment inventory master file. Audit equipment vouchers; input information into Property Control System in Albany; reconcile Property Control diff reports with Cornell statements; correspondence with Cornell and Albany personnel; request necessary reports for PCS in Albany.
Requirements: Associate's in business or accounting or equivalent. 2-3 years office experience necessary. Strong interpersonal and communication skills. Personal computer and terminal experience required. Light typing. Send employee transfer application, cover letter and resume to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

Accounts Coordinator, GR21 (C0111)
Finance and Business-Statutory
Minimum Biweekly Salary: \$582.29
Responsible for processing all Statutory College utility paymentsfrom State appropriations. Perform various reconciliations and
document processing functions for Finance and Business Services.
Requirements: Associate's or equivalent experience. 3-4 years
office experience necessary. Good interpersonal and communication skills. Personal and terminal experience. Light typing.

tion skills. Personal and terminal experience. Light typing.

Accounts Coordinator, GR25 (C0304, C0305)
Finance and Business Services-Statutory
Minimum Biweekly Salary: \$694.38
Provide leadership and technical expertise to a team of 2 accountants in post-award financial management of approximately 1000-1200 restricted operating accounts totaling 30-35 million dollars annually. The team leader coordinates the team's efforts within policies and procedures of Cornell and within funding requirements of sponsoring agencies or donors.

Requirements. Bachelor's in accounting/business administration or equivalent combination of education and experience. Coursework in supervisory management desirable. Training and experience in grant/contract or fund accounting is essential. Ability to work with and manage personnel resources is essential. Strong communication (oral and written) skills are necessary and must demonstrate high level of organizational ability. Working knowledge of computer management systems reports essential. Send cover letter and resume to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

## Office Professionals Off-Campus

Part-time Office Assistant, GR16 (C0721)
NYC Cooperative Extension-Statutory
Minimum Biweekly Salary: \$477.46
Prepare and post daily mail, assist with photocopying, collating and
sorting; inventory and distribute office supplies; maintain office
supply and copy room; assist with errands in and outside the central
office; provide assistance to staff as needed. Mon-Fri, 1:30-5:30.
Requirements: HS diploma or equivalent. Good organizational
skills. able to use office equipment.

Secretary, GR19 (C0720)
NYC Cooperative Extension-Statutory
Minimum Biweekly Salary: \$535.78
Serve as secretary/receptionist and assist in facilities coordination
for NYC Cooperative Ext. programs at main administrative office.
Requirements: HS diploma or equivalent. Some college coursework preferred. 2 years related experience. Good keyboarding.
Communication skills. Medium typing.

Administrative Aide, GR20 (C0703)
ILR/Rochester Extension Office-Statutory
Minimum Biweekly Salary: \$558.78
Administer, with little supervision, day-to-day activities of credit
programs for the Rochester ILR Extension Office. Primary responsibilities include heavy contact with students and adjunct faculty,
processing all registration materials, and working with program
coordinators to schedule classes and produce advertising materials.
Mon-Fri, hours flexible.

Requirements: Associate's or equivalent, 2-3 years of secretarial.

Mon-err, nours lexible.

Requirements: Associate's or equivalent. 2-3 years of secretarial experience, preferably at executive level. Able to work independently using good judgment. Strong interpersonal skills. Excellent communication (written and oral) skills. Computer proficiency.

Administrative Aide, GR20 (C0613)
ILR Extension and Public Service-Rochester, NY-Statutory
Minimum Biweekly Salary: \$558.78
Provide administrative support for Management Studies Coordinator, Upstate Labor Coordinator, and Rochester District Director.
Responsible for processing travel vouchers; payment of noncredit instructors; monitor budget; type program materials; maintain files.
Requirements: Associate's or equivalent. 2-3 years secretarial experience. Able to work independently, exhibit good judgment, able to accept high level of responsibility and work under pressure. Strong computer and word processing skills: significant experience on IBM-PC including wordperfect and DBASE softwares; experience or willingness to learn MacIntosh desirable. Medium typing.

Administrative Aide, GR21 (C0719)
Entomology-Geneva-Statutory
Minimum Biweekly Salary: \$582.29
Provide personnel services for more than 90 regular and temporary
department employees; secretarial support to the chairman and to 15

requirements: Associate's or equivalent. 3 years related experience. Excellent administrative experience essential. Able to maintain confidentiality, work independently, and set priorities. Accuracy in typing and keeping payroll and time/attendance records. Medium typing

## Office Professionals Part-Time

Office Assistant, GR16 (C0609)
Biotechnology Program-Endowed
Minimum full-time equivalent: \$498.93
Schedule and oversee conference facilities plus general clerical
duties as time permits. Hours to be arranged.
Requirements: HS diploma or equivalent required. Typing experience. Previous experience dealing with the public preferred. Medium typing. Send cover letter and resume to Esther Smith, Staffing
Services, 160 Day Hall.

Office Assistant, GR17 (C0624)
Music-Endowed
Minimum full-time equivalent: \$517.65
Be able to record concerts and help with electronic equipment; act as stage manager, train and supervise ushers; coordinate schedules in Barnes for classes, rehearsals, tunings, and moving of instruments. 25 hours per week, 9.5 months per year.
Requirements: HS diploma or equivalent. Music interests necessary. Knowledge of music and musicianship. Excellent public relations skills. Able to handle emergencies efficiently and calmly. Good decision-making skills. Up to 1 year related experience in concert giving environment and knowledge of related areas. Light typing. Send cover letter and resume to Esther Smith, Staffing Services, 160 Day Hall.

Accounts Assistant, GR17 (C9508)
Plant Breeding and Biometry-Statutory
Minimum full-time equivalent: \$495.36
Assist Administrative Aide with duties of business operations in academic department. Type purchase orders, make deposits; order supplies; accounts receivable billings; pick up and deliver packages; process phone, fleet and stores bills; photocopy; fax; file; run errands. 20 hours per week. Hours negotiable.
Requirements: HS diploma or equivalent. Office/accounting expe-

## **Summary Annual Reports of Benefit Plans**

The Employee Retirement Income Security Act of 1974 (ERISA) requires that an annual report for each employee benefit plan covered by ERISA be filed with the Internal Revenue Service. In addition, ERISA also requires that summaries of these reports be distributed to plan participants.

The following summaries present all information required and conform with the style and content requirements of the  $U.S.\ Department$  of Labor.

## **Summary Annual Reports**

Given below are the summaries of the annual reports for Cornell University's (EIN 15-0532082) employee benefit plans for the period July 1, 1988 to June 30, 1989, unless otherwise specified. These annual reports have been filed with the Internal Revenue Service, as required under the Employee Retirement Income Security Act of 1974 (ERISA).

Plan No.	Plan Name	Plan Year End
001	Cornell University Retirement Plan for Endowed employees	6/30
003	Tax Deferred Plan	6/30
006	Retirement Plan for Nonexempt Employees of the Endowed Colleges at Ithaca	6/30
501	Cornell Children's Tuition Scholarship Plan	6/30
502	Cornell Health Care Plan for Endowed Employees	6/30
506	Group Life Insurance Plan	6/30
508	Long Term Disability Plan	6/30
513	Air Travel Insurance Plan	2/07

#### Cornell-Funded Plan

#### Cornell Children's Tuition Scholarship Plan - Plan No. 501 **Basic Financial Statement**

Plan expenses were \$4,017.402. These expenses included \$1,190,057 in benefits paid to other institutions for eligible students and \$2,827,345 in benefits paid by internal transfer of funds for eligible students attending Cornell University.

#### **Welfare Insured Plans**

#### Cornell Health Care Plan for Endowed Employees - Plan No. 502 **Insurance Information**

The plan has a contract with Aetna Life Insurance Company to pay all hospitalization, surgical/medical prescription drug, and major medical claims incurred under the terms of the plan. The plan is self insured. The plan pays the actual claim expenses incurred by participants. In addition, a monthly premium is paid to Aetna for administering the benefits.

For the plan year ending June 30, 1989, the total amount of claims payments \$11,795,335 while the premiums paid to Aetna for administering the benefits were \$777,301.

Group Life Insurance Plan - Plan No. 506 **Insurance Information** 

The plan has a contract with the Equitable Life Assurance Society of the United States which pay all death benefits incurred under the terms of the plan. The plan pays the actual claim expenses incurred by participants, up to a "paid claim liability limit," a predetermined cap on the amount of university funded claims. In addition, a monthly premium is paid to Equitable for administering the benefits.

For the plan year ending June 30, 1989, the total amount of claims change was \$2,095,955 while the premiums paid to Equitable for administering the benefits was \$60,987.

#### Long Term Disability Plan - Plan No. 508 **Insurance Information**

The plan, which took effect on January 1, 1980, is operated under a contract with Teachers Insurance Annuity Association (TIAA) to pay certain long term disability claims incurred under the terms of the plan.

Because it is an "experience-rated" contract, the premium costs are affected by, among other things, the number and size of claims. The total insurance premiums paid for the plan year ending June 30, 1989 under the "experience-rated" contract was \$578,440. The total of all benefit claims under the "experience-rated" contract during the plan year was \$757,031.

#### Self-Insured Long Term Disability Leave of Absence Plan

This portion of the coverage is the Long Term Disability Plan which was in effect prior to January 1, 1980. Cornell University has committed itself to certain long term disability claims incurred under the terms of this plan.

## **Basic Financial Information**

During the plan year, the plan had total income of \$23,649 from employer contributions

Plan expenses were \$23,649 in benefits paid to participants. This plan will continue to pay benefits to participants who became eligible for such benefits prior to the adoption of the new Long Term Disability Plan described above.

#### Air Travel Insurance Plan - Plan No. 513

The summary of the Air Travel Insurance Plan is for the period February 7, 1988 to February 7, 1989.

The plan has a contract with the Continental Casualty Company to pay all air travel death and dismemberment claims incurred under the terms of the plan. The total premiums paid for the plan year ending February 7, 1989, were \$22,605.

## **Retirement Plans**

Retirement Plan for Faculty and Exempt Employees of the Endowed Colleges (TIAA/CREF) - Plan No. 001 **Basic Financial Statement** 

Benefits under the plan are provided by individually owned, fully vested annuity contracts issued by Teachers Insurance Annuity Association and College Retirement Equity Fund (TIAA/CREF). The total premiums paid on behalf of individual policyholders for the plan year ending June 30, 1989, were \$14,435,348.

#### Tax-Deferred Plan - Plan No. 003 **Basic Financial Statement**

Benefits under this voluntary plan are provided by individually owned, fully vested annuity contracts issued by Teachers Insurance Annuity Association and College Retirement Equity Fund (TIAA/CREF) UNIUM (Union Mutual Life Company). Equitable Life Assurance, Fidelity Group, and Dreyfus Corporation. The total premiums, paid entirely by plan participants, for the plan year ending June 30, 1989, were \$6,292,893.

#### Retirement Plan for Nonexempt Employees of the Endowed Colleges at Ithaca - Plan No. 006 **Basic Financial Statement**

Benefits under the plan are provided by a trust agreement with Morgan Guaranty Trust. Plan expenses were \$1,919,100 in benefits paid to participants and beneficiaries. A total of 2,669 persons were participants in or beneficiaries of the plan at the end of the plan year, although not all of these persons had yet earned the right to receive benefits.

The value of plan assets, after subtracting liabilities of the plan, was \$14,284,100 as of the end of the plan year, compared to \$13,674,538 as of the beginning of the plan year. During the plan year, the plan experienced an increase in its net assets of \$609,562. This increase includes unrealized appreciation or depreciation in the value of plan assets; that is, the difference between the value of the plan's assets at the end of the year and the value of the assets at the beginning of the year or the cost of the assets acquired during the year. The plan had total income of \$1,903,170 including employer contributions of \$809,146, gains of \$232,290 in the sale of assets, and earnings from investments of \$1,487,226.

#### **Minimum Funding Requirements**

The actuary's statement shows that enough money was contributed to the plan to keep it funded in accordance with the minimum funding standards of ERISA. The plán's actuary is Towers, Perrin, Forester and Crosby of Boston, Massachusetts.

#### Your Right to Additional Information

You have the right to receive copies of all of the full Annual Reports, or any parts thereof, on request. The items listed below are included in those reports:

- Insurance information, including sale commissions paid by insurance carriers.
   An accountant's report.
   Actuarial information regarding the funding of the Retirement Plan for Nonexempt

To obtain copies of the full Annual Reports, or any parts thereof, write or call Employee Benefits, Office of Human Resources, 130 Day Hall, Ithaca, NY 14583 (607)255-7508. The charge to cover copying costs will be \$1.00 for a full Annual Report or .10¢ per page for any parts thereof.

You also have the legally protected right to examine the Annual Reports at the main office of the plan administrator at the Office of Human Resources, 130 Day Hall, Ithaca, NY and at the U.S. Department of Labor in Washington, D.C., or to obtain copies from the U.S. Department of Labor upon payment of copying costs. requests to the department should be addressed to: Public Disclosure Room, N4677, Pension and Welfare Benefits Program, Department of Labor, 200 Constitution Ave., N.W., Washington, D.C. 20216.

If you have any questions regarding any of the information presented in this summary, contact Employee Benefits at 255-6884.

## Jobs

Continued from page 3

rience helpful. Light typing. Send cover letter and resume to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

Secretary, GR18 (C0727)
Community and Rural Development Institute-Statutory
Minimum full-time equivalent: \$513.94
Provide secretarial support for the Associate Director of the Community and Rural Development Institute. Heavy typing for research and extension activities; process expense reports; conference organization; newsletter preparation. Other duties as assigned. Hours flexible, half days preferred.

Requirements: HS diploma or equivalent, some college coursework (secretarial training) preferred. 1 year related secretarial experience with computer, word processor essential. Excellent organizational and communication skills. Heavy typing. Send cover letter and resume to Esther Smith, Staffing Services, 160 Day Hall.

Secretary, GR18 (C0611)
Agricultural Economics-Statutory
Minimum full-time equivalent: \$513.94
Provide secretarial and administrative support to 2 academic and 2 extension/research staff members in the area of public policy as it relates to resource economics and local government. Mon-Fri, 8-12, 20 hours per week. 1-5 years. Contract to be renewed annually up to 5 years.

to 5 years.

Requirements: HS diploma or equivalent. Some college coursework preferred. 1-2 years secretarial experience required. Experience with computer/word processor essential. Able to organize and prioritize varied tasks. Excellent communication skills. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, 160 Day Hall.

Secretary, GR18 (C0612)
ILR-Personnel and Human Resource Studies-Statutory
Minimum full-time equivalent: \$513.94
Secretarial support for department faculty. Use computerized hardware and software to prepare correspondence, training materials, administrative memoranda, budgets, vouchers, etc.; make travel arrangements, process correspondence, handle mail, telephone contacts, appointments. 20 hours per week. May go to full-time in Summer 1990.
Requirements: HS diploma or equivalent. Some college coursework preferred. 1-2 years office experience. PC experience; familiarity with wordprocessing software, graphics software and spreadsheets. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, 160 Day Hall.

Searcher, GR18 (C0615)
Acquisitions/CTS/Olin/CUL-Endowed
Minimum full-time equivalent: \$529.35
Responsible for receiving and processing incoming Special Foreign
Currencies Program and NPAC monographs, serials and newspapers. Mon-Fri, 20 hours per week.
Requirements: HS diploma or equivalent experience. 1 year
related experience. Able to work independently. Good organizational skills. Knowledge of South Asian Languages and NOTIS/
RLIN automated system desirable. Some supervisory experience
desirable. Send cover letter and resume to Esther Smith, Staffing
Services, 160 Day Hall.

Secretary, GR18 (C0301)

Secretary, GR18 (C0301)
Engineering Minority Programs-Endowed
Minimum full-time equivalent: \$529.35
Clerical support for Cornell Young Scholars Program. Word processing; mailings; duplicating; filing; some basic bookkeeping; receptionist duties. Mon-Fri mornings. 20 hours per week.
Requirements: High School diploma or equivalent. Some college coursework. 1-2 years related office experience. Proficient on Macintosh computer. Knowledge of Cornell community helpful. Able to work independently and communicate with middle and HS students. Sensitivity to minority issues. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, EHP, Ilhaca, NY 14850.

Secretary, GR18 (C0229)
Plant Breeding and Blometry-Statutory
Minimum full-time equivalent: \$513.94
Provide secretarial support for faculty in the Biometrics Unit. Type correspondence, course materials, and technical manuscripts; photocopy: serve as backup for answering telephones and handling mail. Other duties as assigned. 4 hours per day; flexible. Hours may increase.

Requirements: HS diploma or equivalent. Some college course-work preferred. 1 year related office experience. Familiarity with word processing, preferably on IBM PCs or MACs. Technical typing desirable (training provided). Good interpersonal and organiza-tional skills. Accuracy important. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

Secretary, GR19 (C0711)

Secretary, GR19 (C0711)
Psychology-Endowed
Minimum full-time equivalent: \$551.86
Serve as graduate field secretary, handle grad applications, TA appointments, maintain grad records, etc. Secretarial support to several faculty members: providing word processing and record keeping support. Excellent interpersonal, communication and organizational skills essential. Mon-Fri, 4 hours per day, TBA. Requirements: HS diploma or equivalent. Some college coursework preferred. 2 years related experience in university setting. Knowledge of Macintosh, Word, Excel desirable. Must be self-directed. Excellent organizational, interpersonal and communication skills essential. Medium typing. Send cover letter and resume to Esther Smith, Staffing Services, 160 Day Hall.

Custodian, SO02 (G0703)
Buildings Care-Endowed Hiring Rate: \$6.00
Provide general custodial care of buildings and grounds in immediate vicinity of assigned area. Mon-Thur, 6 am-2:30 pm; Fri 6 am-1:30 pm Mequirements: Basic reading and writing skills. Able to operate a variety of heavy power equipment, lift 50 lbs and climb an 8 foot ladder. Regular Cornell employees only. Submit employees only. Submit employees ransfer application to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

Physical Therapist Assistant, GR20 (C0109)
University Health Services-Endowed
Minimum full-time equivalent: \$575.30
Carry out treatments as directed and supervised by the department's
Physical Therapists. Mon-Fri, 20 hours per week.
Requirements: Associate's in physical therapy assistantship or
equivalent work experience. Athletic training preferred. Experience
in orthopedic/sports medicine setting desirable. Send cover letter &
resume to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

## Office Professionals Temporary

Casual Administrative Secretary (S0707)
Office of President Emeritus Malott
Provide administrative/secretarial support to President Emeritus
Deane Malott. Heavy use of dictaphone. Xeroxing. Medium typist,
accuracy a must. Maturity and reliability is essential. Familiarity with
Cornell desirable. Approximately 9-11 hours weekly, however,
hours may increase.

Office Assistant (80702)
CIT/MOS-Consumer Services
Provide consulting and process orders and sales transactions as an integral part of MOS Marketing Operation, Identify customer computing needs. Provide information and perform demonstrations. 3 months.

mortins.

Requirements: HS diploma. Associate's in business or marketing desirable. Excellent communications and interpersonal skills. Handson experience with microcomputer applications. Ability to work in a fast-paced environment. Light typing.

Lab of Ornithology
General stockkeeping duties at the Crow's Nest Birding Shop.
Answer phone, file, type and computer work. NYS driver's license helpful. April to July, 20-30 hours per week.
Requirements: HS diploma or equivalent. Able to lift 50 lbs. Cash register experience helpful. Light typing. Send cover letter and resume to Karen Raponi, Staffing Services, 160 Day Hall.

Office Assistant (S0601)
Summer Session
Provide clerical assistance to the director and assistant to the director. Answer phone and mail inquiries. Process application recommendations and transcripts through acceptance to programs. Assemble and process bulk mailings. Assist with registration and course changes. Mon-Fri, 1-5 (flexible). Until July Requirements: HS diploma or equivalent. Some office experience desired. Familiarity with IBM PC required. Ability to work with diverse public. Ability to work independently. Familiarity with Cornell desirable. Send cover letter and resume to Karen Raponi, Staffing Services, 160 Day Hall.

Personnel Assistant (S0502)
Office of Human Resources-Staffing Services
Provide, under close supervision, staff support in the areas of
recruitment, referral and data input.
Requirements: HS diploma. 1 year office experience. Computer
data entry skills necessary. Good organizational skills and attention
to detail. Good interpersonal skills. Medium typing. Send cover
letter and resume to Karen Raponi, Staffing Services, EHP, Ithaca,
NY 14850.

Catering Bar Manager (S0307)
Cornell Catering
Inventory, pack, and store all catering liquor and bar equipment.
Previous bartending experience required. Must be reliable and 21 years of age. 20-25 hours weekly. Please send cover letter, resume, and two references to Karen Raponi, Staffing Services, EHP, Ithaca,

## **General Service**

Food Service Worker, SO02 (G0701)

Food Service Worker, SO02 (G0701)
Dining-Endowed
Hiring Rate: \$6.00
Prepare, present and serve food items for Co-op, cash, catering or special events. Shift subject to change. 40 hours per week.
Requirements: HS diploma or equivalent. 1 year related experience. Working knowledge of food preparation and presentation.
Able to operate choppers, slicers, mixers, ovens, steam kettles, pressure steamers and various hand tools. Good customer relation skills.

Material Handler, SO05 (G0604)
General Stores-Endowed
Hiring Rate: \$6.88
Receive orders from customers at service counters; issue supplies to
employees and departments as needed; perform order pick-up;
identify and check for availability of material using computer terminal;
load trucks and deliver material when needed. Other related duties
as assigned. Mon-Thur, 7:30-4; Fri, 7:30-3.
Requirements: HS diploma or equivalent. 2-3 years related
warehouse/retail experience preferred. Valid driver's license Class
V required. Able to read and write and complete basic arithmetic.
Require standing long periods of time. Heavy lifting (75-250 lbs).
Send employee transfer application to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850. Send cover letter and resume to Esther
Smith, Staffing Services, 160 Day Hall. Women and minorities
encouraged to apply.

Bus Driver, SO06 (G9506)
CU Transit-Endowed
Hiring Rate: \$7.20
Drive bus on campus, TOMTRAN, routes and charter trips. Check
vehicle for proper operating condition; provide information and directions. Shift subject to change.
Requirements: HS diploma or equivalent. NYS Class 2 driver's
license required. Pre-employment physical and other Department of
Motor Vehicles requirements. 3-6 months current bus driving experience. Good communication (oral) skills. Send cover letter and
resume to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.
Women and minorities encouraged to apply.

Fraternity Cook, SO06 (G0406)
Residence Life-Endowed
Hiring Rate: \$7.20
Clean, prepare and cook food for University-owned fraternity. Clean all food preparation areas, cooking areas and assist in keeping storerooms and refrigerators sanitary. Aid student steward in menuplanning and food purchases as needed. Must be able to work with little supervision and with student volunteers. Ability to supervise student helpers preferred.
Requirements: HS diploma. 1-2 years quantity experience. Ability to follow recipes accurately, operate standard food preparation and cooking equipment. Experience in large quantity preparation is essential. Some years experience as a cook. Good organizational skills. Send cover letter and resume to Esther Smith, Staffing Services, EHP, Ithaca, NY 14850.

## Please submit materials for the following positions to 160 Day Hall.

Groundsworker, SO04 (B0606-B0612) itory

Gardener, SO04 (B0601-B0605)

Hiring Rate: \$6.58
Assist grounds maintenance staff in landscape maintenance and construction including planting, mowing, weeding, mulching, watering fertilizing, pruning, policing of grounds, maintenance of equipment; maintenance of walls, steps, fences. Mon-Thur 7:30-4; Fri, 7:30-3, 7-meeths.

7:30-3. 7 months.

Requirements: HS diploma or equivalent; valid driver's license required. 1-2 years work experience in park, arboretum, or botanical garden desired. Strong interest in horticulture and landscape construction required. Must be able to lift 100 lbs and must be willing to work during all weather conditions. Send letter, resume and employment application to Cynthia Smithbower, Staffing Svcs, 160 Day Hall.

Plantations-Statutory
Hiring Rate: \$6.58
Assist gardening staff in the installation of new gardens and in the

maintenance of existing gardens. Duties include garden cleanup, planting, fertilizing, mulching, watering, raking, weeding, and related tasks as plant labels, plant records, greenhouse care, and nursery maintenance. Mon-Thur, 7-3:30; Fri, 7-2:30. 7 months. Requirements: HS diploma or equivalent; valid driver's license required. 1-2 years work experience in park, arboretum, or botanical garden desired. Strong interest in horticulture required. Must be able to lift 100 lbs and must be willing to work outside during all weather conditions. Send letter, resume and employment application to Cynthia Smithbower, Staffing Services, 160 Day Hall.

## **General Service Off-Campus**

Maintenance Mechanic, GR23 (G0603)
Buildings and Properties, Geneva-Statutory
Minimum Biweekly Salary: \$632.84
Installation, repair, and preventive maintenance of electrical and electronic systems. Provide back-up for personnel assigned to telephone, computer, energy management, and radio systems. Requirements: HS diploma or equivalent. Associate's desirable. Valid NYS driver's license. 4 years experience in the installation and repair of electrical and electronic systems. Rolm telephone, computer, and radio experience is desirable. Women and minorities encouraged to apply.

## **General Service Part-time**

Dish Machine Operator, SO02 (G0702)
Dining-Endowed
Hiring Rate: \$6.00
Wash dishes, utensils, pots and pans. Stock assigned areas. Shift subject to change. 30 hours per week.
Requirements: HS diploma or equivalent. Able to learn proper use of dishwashing equipment and cleaning agents. Able to lift 35 lbs.

## **General Service Temporary**

In addition to posted positions, temporary opportunities frequently occur in custodial, food service, dish machine operation, material handling and other service areas. All individuals are encouraged to apply. Call Karen Raponi at (607) 255-2192 or 255-7422 for more information.

Custodian
Building Care-Endowed/Statutory
Temporary Rate: \$5.00
Continuous recruitment will be done in the department of Building
Care for temporary custodians. Providing general custodial care of
buildings and grounds in immediate vicinity of assigned area. MonThur 6:00am-2:30pm, Fri 6:00am-1:30pm. Periodically 2nd and 3rd
shift hours are available.
Requirements: Basic reading and writing skills. Able to operate a
variety of heavy power equipment, lift 50 lbs and climb a 6 foot ladder.
Contact Karen Raponi, Staffing Services, EHP, 255-2192 for an
interview.

## Academic

Extension Associate III
Lab of Ornithology
Interpret and communicate ornithological information to Lab members, the Cornell community, the media and the general public through a variety of media. Administer local aspects of the Lab's Education and Information Services Program. Manage the Lab's library to provide information services, and supervise part-time staff responsible for the Lab's library and our home study course in Bird Biology.

Biology.

Requirements: MS in biology or related field or equivalent experience. Ability to identify by sight and sound most species of North American birds. Familiarity with audio-visual materials. Demonstrated writing and speaking abilities. Send cover letter, CV, and names of 3 references to Diane Johnson, Lab of Ornithology, 159 Sapsucker Woods Road, Ithaca, NY 14850.

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