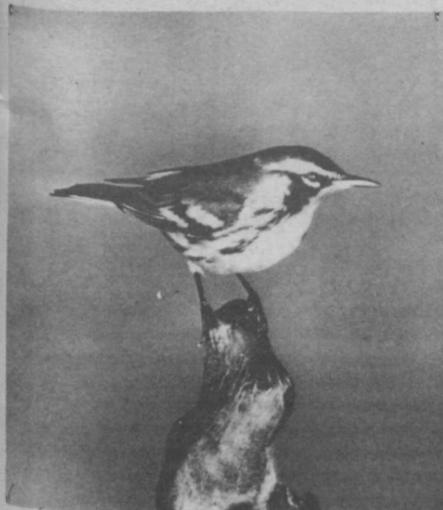


## Where the Birds Are

### Six-Year-Long Statewide Survey Shows 245 Species Breed Here



Yellow-throated warblers like this one are now nesting in New York State, according to Breeding Bird Atlas surveyors.

After six summers of trudging through swamps, farmlands, city streets, and high peaks, 1,500 amateur bird-watchers, wildlife biologists, and professional ornithologists finally know what birds are where in New York State.

There are 245 species of birds breeding in the state, according to the survey conducted for the New York State Breeding Bird Atlas. A summary of the survey is being prepared for publication at Cornell's Laboratory of Ornithology; the summary — known as an atlas — will be published by Cornell University Press in 1987.

Particularly encouraging to ornithologists and ecologists is the resumption of breeding by the bald eagle and the peregrine falcon, two survivors of pesticide pollution. Those birds of prey disappeared from the state in the 1960s when chemical pesticides contaminated the food chain and prevented reproduction.

DDT was banned in the United States in 1972. Two pairs of bald eagles and four pairs of peregrine falcons are now believed to be breeding in the state.

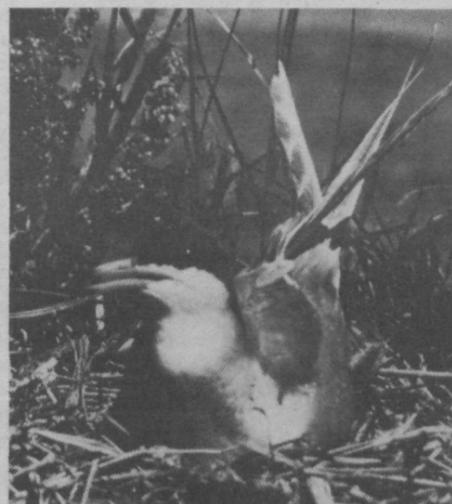
Seven species that historically have nested in

the Empire State were not confirmed as breeding: the lesser scaup, golden eagle, the king and the black rail, Bewick's wren, and the Cape May and the Wilson's warbler.

But five newcomers to the state were determined to be breeding: Forster's tern, the boat-tailed grackle, blue grosbeak, and the yellow-throated warbler, all from south of New York State, and the palm warbler from Canada.

The New York State Breeding Bird Atlas Project began in 1980. Patterned after similar efforts in Britain and Ireland, the project shows distributions of all breeding birds in the state. Surveyors scoured 99.7 percent of the 5,335 nine-square-mile blocks in the state, missing only remote or inaccessible sections such as restricted parts of military bases.

New York's survey, together with atlases of other states and Canadian provinces, will provide a clearer picture of the region's environmental health, says Robert S. Arbib, a survey organizer and former editor of American Birds.



Forster's tern, a bird of the southern United States, is now found breeding in New York State.

Stories written  
By ROGER SEGELKE

## Birds of Prey Coming Back From Peril

Five of North America's rarest birds of prey are returning from their brush with extinction, according to a 14-year analysis of winter raptor populations by ornithologists here.

The bald eagle, prairie falcon, northern goshawk, merlin, and gyrfalcon have made "dramatic" recoveries since the early 1970s, when deadly pesticides were still accumulating in the environment.

The findings are included in a report by Cornell's Laboratory of Ornithology to the U.S. Fish and Wildlife Service. Cornell's specialists in population biology compiled data from annual Christmas Bird Count surveys sponsored by the National Audubon Society.

The population of raptors — the hawks and owls on the end of the food chain where toxic chemicals accumulate — is an indication of the environment's general health, said Gregory S. Butcher, director of the cooperative research program at the ornithology laboratory.

Many species of raptors reached an all-time low in the early 1970s, when large amounts of DDT were present in the environment.

"The species that people are most excited about is the bald eagle. Their populations have almost doubled in the past decade," Butcher said.

The Laboratory of Ornithology reported the following estimates of current raptor populations in the continental United States and southern Canada and trends since the early 1970s:

— gyrfalcon, an Arctic species that feeds on snowshoe hares and grouse, 500, up 500 percent;

— peregrine falcon, now breeding continent-wide in cities and wilderness areas, 1,200, up 19 percent;

— Harris' hawk, a desert-dwelling bird of the southwestern United States, 5,600, down 38 percent.

## DDT Continues As a Problem In Insecticide

Fruit farmers and home gardeners inadvertently may be spreading the banned insecticide DDT on their crops, a Cornell ornithologist warns.

"DDT is still being used legally in this country as an ingredient in an insecticide — dicofol — that is probably sold in your local garden store," Richard E. Bonney Jr. writes in *Audubon and The Living Bird Quarterly*.

But the small amounts of DDT in dicofol are less significant than the unknown amounts of DDT lingering in the environment years after the substance was prohibited, a Cornell toxicologist adds.

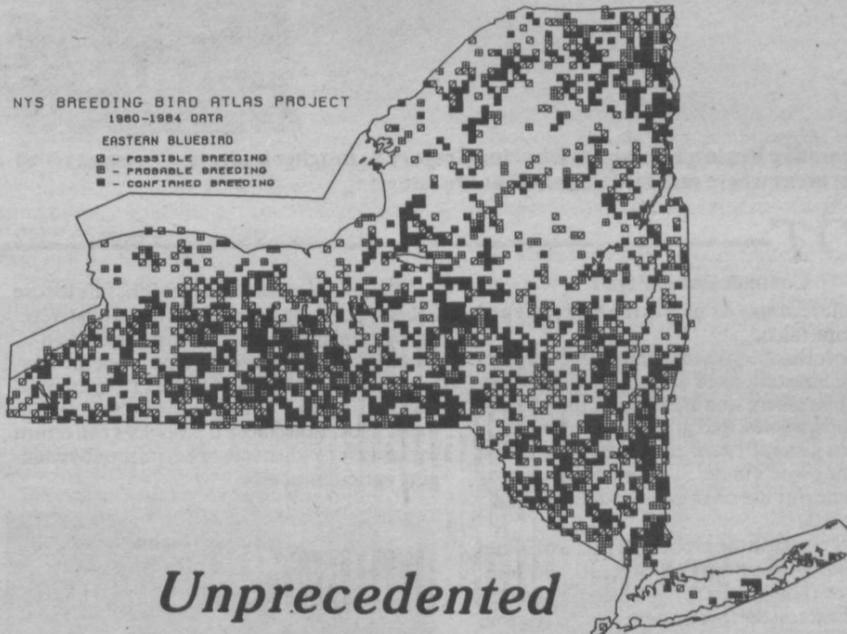
"DDT will be with us for decades, especially those residues turned into the soil by tillage and the work of earthworms," says James W. Gillett, professor of ecotoxicology in the State College of Agriculture and Life Sciences here.

Bonney, citing U.S. Environmental Protection Agency estimates that 2.5 million pounds of dicofol are applied to agricultural fields and gardens each year in this country, says as much as 250,000 pounds of DDT and related chemicals are released annually into the environment.

"While this is a small amount compared with the 12 million pounds of DDT used each year in the early 1970s, the effect still could be significant," says Bonney, associate editor of *The Living Bird Quarterly*, published by Cornell's Laboratory of Ornithology. "Reproductive failure of birds can be caused by DDT residues as low as a few parts per million," he explains.

DDT was banned by the federal government in 1972 after the deadly chemical was found to have infiltrated the food chain. It collected in the tissues of many animals, causing reproduc-

Continued on Page 2



## Unprecedented Cooperation Shown In Most Exhaustive Bird Survey

Completing the survey for the New York State Breeding Bird Atlas, a six-year effort that sent observers to every corner of the state, required unprecedented cooperation.

"Never before in the history of the state has so much information about the breeding distributions of birds been amassed over such a short time," says Gordon M. Meade of Pittsford, N.Y., steering committee chairman for the survey, which found 245 species of birds in New York State.

The survey was a cooperative effort of the Federation of New York State Bird Clubs, the Cornell Laboratory of Ornithology, and the New York State Department of Environmental Conservation. Three Canadian provinces and most states in the eastern U.S. have either

concluded or are in the process of conducting breeding bird surveys.

"This was the first atlas to be fully computerized from its inception," says Charles R. Smith, director of education and information services at the Cornell Laboratory of Ornithology, where survey data is being readied for publication in 1987.

No land area in North America as large as New York State has been surveyed for breeding birds at the level of detail employed, according to Smith.

Some 1,500 volunteers covered all but 13 of the 5,335 nine-square-mile blocks into which the state was divided. They looked for evidence

Continued on Page 2

## Cornell Administrator Continues to Spread King's Message

By MARTIN B. STILES

Eighteen years after the death of Martin Luther King Jr., Dorothy Cotton is still spreading the civil rights martyr's message of nonviolence.

"I have devoted much of my life to pursuing the beauty and meaning in King's message of nonviolence and to understanding his promise that 'the end we seek is pre-existent in the means we use,'" says Cotton, who is director of student activities here.

A member of King's personal staff for eight years, Cotton has visited college campuses across the nation to discuss his ideas from "the special kind of perspective of those of us who walked with him."

Today, she is helping plan programs to take King's message to college campuses as a member of the New York State Martin Luther King Jr. Commission.

The 40-member commission, chaired by en-

tertainer Harry Belafonte, plans celebrations of King's birthday and is developing programs to examine the historical, social, political, and cultural effects of King's work.

This year, King's birthday, Jan. 15, is being observed Jan. 20 as a national holiday for the first time.

"It is nothing short of providential that at a time of growing violence and rampant terrorism worldwide our nation has set aside a day to honor a man who devoted his life to nonviolence," says Cotton. She spent 10 years as director of the Citizenship Education Program in the Southern Christian Leadership Conference, founded by King.

Cotton will be with King's widow, Coretta, in Atlanta Jan. 20 to attend commemorative ceremonies at the Martin Luther King Jr. Center for Nonviolent Social Change. Cotton was vice-president for field operations at the center before joining Cornell in 1982.

On Jan. 21, Cotton will attend the unveiling of a mural in the Martin Luther King Jr. Memorial Library in Washington, DC, that depicts events in King's life. Cotton is represented in one of the panels showing King with his staff.

The seven-foot high painting by artist Don Miller traces the life of King with scenes from his childhood in Atlanta to his assassination in Memphis, TN, April 4, 1968.

Cotton was with King up to five hours before he was killed.

"I had to get back to Atlanta to conduct a workshop and left Memphis early in the afternoon," Cotton says. King was shot about 6 p.m.

"He lived with a gnawing premonition of his fate, which was intensified by his love of everyday life and the joy he took in being with others," Cotton says.

"It is one thing to honor him once a year," she adds, "it is quite another to really apply his

nonviolent approach to solving our problems both interpersonally and internationally. It's not easy, as he knew so well."

## Agriculture 1986

As farmers in the United States face a continuing but stable recession in 1986, agricultural research must include questions of economics, biotechnology, and robotics to ensure a bright future in agriculture.

For a look at how some Cornell faculty members view the "mixed outlook" facing farmers in 1986, please turn to page 7.

## Survey

Continued from Page 1

of nesting behavior, such as birds carrying nest materials or food for young, or the presence of eggs or young in nests.

Some species that were sighted in the state during the periods of the survey — the hours just after sunrise and before sunset in June and July during the past six summers — did not make the breeding list because evidence of nesting behavior could not be confirmed.

Areas with the fewest species were the densely populated cities and intensively farmed regions. The survey block with the greatest variety of nesting birds was found near Ithaca. Containing 141 species, the so-called Michigan Hollow block is composed of rolling hills and valleys with a rich variety of suitable habitats, including beaver ponds and streams, state for-

est lands, scrub and grasslands, and a small village.

Several survey participants encountered more than birds. When Robert S. Arbib, former editor of the journal *American Birds*, surveyed the abandoned factory district of the south Bronx during the early-morning hours, he encountered six dead bodies in New York's Pelham Bay Park — including two he was apparently the first to discover.

While surveying in mountainous Hamilton County, two birders were stranded by flood waters and had to cut trees to cross a raging stream. In Clinton County, two others were threatened with a knife and rifle, then pursued in their truck at high speeds by a man who suspected them of "poaching" deer. Another pair was chased from the property of a man whom

local police termed "crazy and dangerous."

The survey would have been impossible, organizers say, without the more than 160,000 hours of volunteer service. In addition to the Federation of New York State Bird Clubs, which mustered volunteers, financial support was provided by the Department of Environmental Conservation through the state income tax "Return a Gift to Wildlife" option and by at least four electric power companies and New York Telephone.

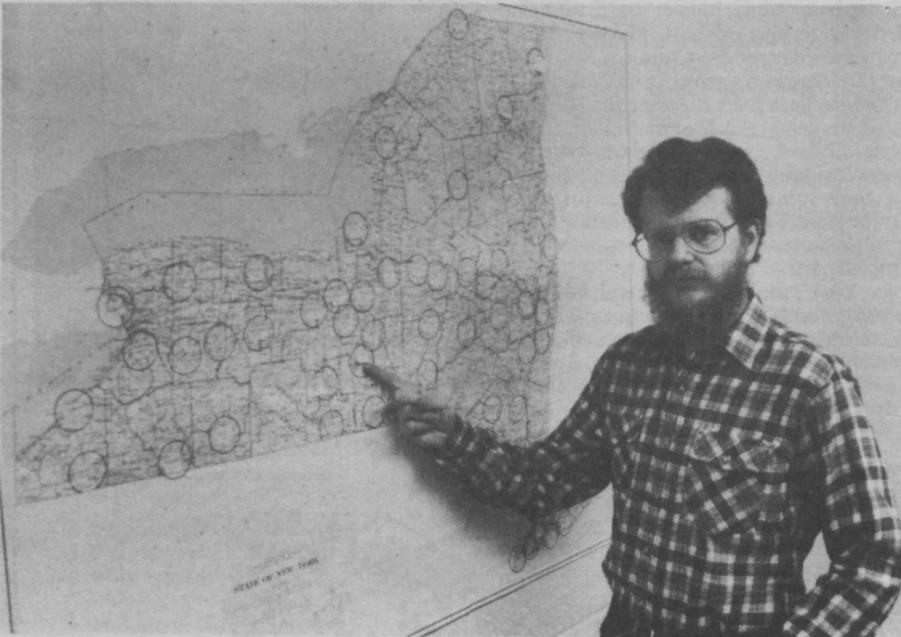
Sixteen writers, together with artists and editors, will compile the atlas, which will contain distribution maps, drawings, and natural history information for each species. Editor of the atlas is research associate Robert F. Anderle; associate editor is extension associate Janet R. Carroll; both are in Cornell's Laboratory of Ornithology.

A national conference on breeding bird at-

lases will be sponsored by the Laboratory of Ornithology in 1987.

### Ithaca Count

Volunteers conducting the annual Christmas Bird Count in the Ithaca area found 71 species on New Year's Day, including one never seen here in winter months — the rose-breasted grosbeak. "It's a good year for bluebirds, which usually winter to the south, and for pine grosbeaks and common redpolls," commented Gregory S. Butcher, director of the local Christmas count. All the bird feeders and gorges make Ithaca something of the "world's capital for chickadees," Butcher added, noting that some 80 birders located more than 1,500 of them.



Cooperative Research Program Director Gregory S. Butcher indicates Christmas Bird Count areas where rare bird populations are returning.

## DDT

Continued from Page 1

tive failure of species such as the bald eagle and peregrine falcon.

Dicofol has been used for more than 20 years against infestations of mites, tiny insects that resemble spiders, and are a serious threat to citrus crops, apples, and grapes. The chemical, which is generally considered safe, also is sold to home owners under many names, including Kelthane, for use on ornamental shrubs and vegetables.

DDT is used in the production of dicofol and some DDT — as much as 10 percent — often remains as a residue. DDT is not listed in tables of ingredients on the final product, but is allowed by the EPA as a related chemical. Dicofol manufacturers are under EPA orders to reduce residual DDT to less than 2.5 percent by January 1986 and to less than 0.1 percent by July 1987.

An even more important concern, Bonney writes, is the environmental effect of dicofol itself.

"This question has been very poorly studied, but the EPA does know that the pesticide is highly toxic to aquatic organisms and is capable of causing reproductive impairment in some fish and birds. One study has suggested that dicofol, with or without DDT, may break down into DDE, the same deadly byproduct into which DDT breaks down," he explains.

But, "Dicofol has never been demonstrated to be converted to DDE," counters Gillett, a nationally recognized expert on the effects of poisonous chemicals on the environment. "The chemistry of dicofol is such that formation of DDE from it is practically inconceivable."

Gillett is convinced that dicofol is safe for use because, he says, it breaks down to relatively harmless materials that are eventually dissipated in the environment. That is not the case, however, with "left-over" DDT from applications in the 1960s and early 1970s, the toxicologist adds. Long-buried pesticides can return to the surface when soils are disturbed by changing agricultural uses.



Still scarce — with an estimated 8,200 in the entire U.S. — the falcon known as the merlin is among those recovering in the "post-pesticide" era.

## Credit Card System Prompts Questions on Travel Policy

The university's recent change to the use of credit cards for most travel on Cornell business has prompted several questions about insurance coverage on business travel.

According to Wallace B. Rogers, director of materials management, who is in charge of the travel office here, and George Meeker, director of risk management and insurance, several travelers have called to be sure the travel coverage that was put in motion in the past by a travel advance would still be in effect.

They said the \$100,000 air travel coverage for persons traveling on Cornell business continues in effect during the flight or if the person is a passenger in a vehicle enroute to the airport to get a flight.

Evidence that a person is traveling on Cornell business can be established by a travel requisition, trip declaration form, a university cash advance, written memoranda, notation

on an appointment calendar—basically that someone be able to confirm that the employee was traveling on Cornell business.

There is a difference in policy between the endowed and statutory units concerning collision coverage on rental vehicles. In the case of travelers from endowed units, the general rule is that the collision coverage should be rejected, unless circumstances make it impossible. In statutory units, however, travelers should take the collision coverage offered by the rental company. The difference is that the endowed units maintain a reserve to cover collision, while statutory units do not.

As a general rule, Meeker said, all accidents should be reported to the rental company, the traveler's personal insurance company, and to the Department of Risk Management at Toboggan Lodge.

## Johnson GSM Has New Fund For 30 Student Loans a Year

As many as 30 students a year will benefit from a new loan fund in the Johnson Graduate School of Management here.

The Nelson Schaeen Special Loan Fund provides 30 loans to a maximum \$3,000 each at 5 percent interest. Rates on other loans available through the university or the federal government range from 8 to 12 percent.

Members of the Schaeen family, including Nelson Schaeen Jr., chairman of the executive committee of Cornell's Board of Trustees, established the fund "in response to the increasing need for financial aid for students."

Approximately one-half of the students in the Johnson School are eligible for some kind of financial aid, according to James W. Schmotter, associate dean. "The money from the Schaeen family will have a large, immediate, and positive impact on the ability of MBA students to finance their two years at Cornell," he said.

Terms of the Schaeen loan fund require pay-back over a two-year period, beginning three months after graduation. Such a pay-

back period makes it possible to help a large number of students, Schmotter said, because conventional funds of this size average a seven-year turnaround and can assist only one or two students a year.

Schaeen, a partner in the investment firm Weiss, Peck and Greer, said he became aware of the need for financial aid for MBA students through his work on the Johnson School Advisory Council.

"A fund where the money was constantly being recirculated would mean more students could use it on a regular basis. My father believed strongly in hard work and self discipline. This loan was the kind of memorial that would best reflect his attributes," Schaeen said.

Recipients of Schaeen loans are chosen on the basis of academic merit and financial need. The first six loans were made during the fall semester; 24 more will be awarded this spring.

Further information about the Nelson Schaeen Special Loan Fund can be obtained from Schmotter or Susan Stone, director of financial aid for the Johnson School.

## English as Second Language Offered

A six-week, noncredit course will be offered on campus starting Feb. 10 for visiting academicians who seek improvement in any basic English language skills, particularly speaking and listening comprehension.

All language-learning activities will be oriented toward what will be most useful to the scholars during their stay here. Practice in speaking and pronunciation will include informal conversation activities, formal presentations and individual help with pronunciation problems.

Classes will meet from 4:30 to 6:30 p.m. Monday through Thursday, Feb. 10 - March 20. In addition to the eight hours of weekly classroom instruction, individual consultations will be available.

The program fee is \$400. Registration must be submitted by 4:30 p.m. Feb. 7.

For registration information, contact Patricia Updike, B12 Ives Hall, 256-7259. For more information about the course, contact Mary K. Redmond, 323 Morrill Hall, 256-8288.

## Professorship Honors Andrew D. White

The University Board of Trustees has established an endowed professorship in history to honor the university's first president, Andrew Dickson White.

The chair, to be occupied by a current member of the faculty, is titled the President White Professorship in History. It is funded with money from a trust White established for his daughter, Karin A. White. She died in 1971 at the age of 77.

According to White's will, after his daughter's death the money was to be used to maintain 'the President White School of History and Political Science,' a title established in 1887 for the two disciplines to honor White.

The title fell out of use after 1910 when the departments of history and political science were treated as distinctly separate units.

Trustees have decided to apply the money toward the establishment of an endowed professorship in history, according to Provost Robert Barker.

Other professorships bearing the first president's name are the Andrew D. White Professor of Architecture, established in 1921, and the Andrew D. White Professors-at-Large, established in 1965.

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Among those found in Ethiopia were so-called "famine tourists," such as "Joe" (right), unskilled and without accreditation by any relief groups.

### Cornellian's Ethiopia Film to Air on PBS

"Faces in a Famine," a film produced and directed by Cornell lecturer Robert Lieberman, is scheduled to be shown on the PBS network at 10 p.m. Wednesday, Jan. 15. Lieberman traveled with a film crew to the Shoa province of Ethiopia in spring 1985. Among the people he interviewed were nurses in American, Irish, and Danish emergency feeding camps, "disaster groupies" who, for no apparent reason, can be found at the site of such a catastrophe, and a television producer who was reporting on the relief efforts. Lieberman, the author of three published novels and several screen plays, is a lecturer in the physics department. PBS stations in Binghamton, Syracuse, Schenectady, and Plattsburgh are scheduled to air the film at 10 p.m. Jan. 15. Stations in New York City, Rochester, and Buffalo plan to air the film at other times.



ROBERT LIEBERMAN



### Boyce Thompson Receives Gift To Endow Research Position

The Boyce Thompson Institute for Plant Research at Cornell has received an anonymous gift of \$1 million to endow a new research position in plant molecular genetics. "We are extremely grateful to the donors for this generous support and the expression of confidence in our research program," said Roy A. Young, managing director of the institute. "Although the institute has a modest endowment that was provided by the founder, Col. William Boyce Thompson, that income is used to support the general operating budget. This gift establishes the first endowment fund to support a designated position." Plant molecular genetics is the study of hereditary factors in plants at the most basic level, the individual molecules of DNA, with the aim of improving plant quality and productivity through genetic engineering. At BTI, current plant molecular genetics research focuses on the relationship between leguminous plants and the bacteria, that in asso-

ciation, can convert atmospheric nitrogen into usable compounds; understanding genetic mechanisms in the microorganism known as cyanobacteria, which, like higher plants, convert light energy to useful nutrients; and genetic engineering techniques for modification of economically important plants. "We are pleased to have an opportunity to select an outstanding scientist whose research interests will complement our on-going research program," Young said. BTI is one of three private, non-profit research institutions in the country that concentrate research efforts on plants. Established in 1924, the institute was located in Yonkers, NY, for 54 years before moving to the Cornell campus in 1978. The research activities of BTI scientists are concentrated in four primary program areas—biological control, environmental biology, nitrogen and crop yields, and plant stress.



Eric R. Smith, left, research associate in the Laboratory of Atomic and Solid State Physics, and Keith R. Hairston of the Keene Corporation's Ray Proof Division, check the new Microkelvin Laboratory for radio signal interference. Physicists in the underground laboratory, located south of Clark Hall, hope experiments will reach the coldest temperatures anywhere — a fraction of a degree Kelvin from absolute zero.

## Sewage Treatment 'Plant' May Become Truly That

By YONG H. KIM

Cornell researchers are using a host of plant species to do what conventional sewage treatment facilities do — take pollutants out of sewage — at much lower capital investments and operating costs. Countless homes, industries, and commercial establishments, among other sources, all discharge wastewater into municipal sewers, creating untold amounts of sewage sludge around the clock. Cornell's plant-based treatment system is capable of doing as good a job as the typical chemical treatment plant does, said William J. Jewell, an agricultural engineer in the New York State College of Agriculture and Life Sciences. The system, in essence, relies on plants grown in a modified hydroponic system known as the "nutrient film technique" that uses only sewage as a growing medium for the plants, and the resulting plant roots efficiently pick up all the pollutants from the wastewater. "Instead of building concrete-and-steel monsters at tremendous costs, we can use this plant-based treatment system, which could cost half as much to do the same job," Jewell said. Sewage contains many kinds of organic and inorganic pollutants, including nitrogen, phosphorus, potassium, calcium, iron, sodium, microorganisms, and heavy metals such as cadmium, lead, nickel, and copper. The conventional treatment plant removes these pollutants from sewage before discharging the treated wastewater into the environment. It does this in a two- or three-step process. The first step, called primary treatment, removes much of the pollutants from sewage by settling out suspended materials. The second step eliminates dissolved pollutants. Sludge resulting from this two-step process may require further treatment. The key component of Cornell's treatment system is living plants grown in sewage, requiring no soil. Plants are grown in water-tight troughs somewhat similar to gutters, and a thin "film" of wastewater is directed to flow through the plant roots. Hence, Jewell calls his system the "nutrient film technique." He says that plants grow well in such a system because sewage contains all the major nutrients necessary for plant growth. The result is massive root systems that pick up all the pollutants. "The roots serve as a highly efficient filter," Jewell says. "Better yet, they are renewable because the plant continues to grow." Based on a series of experiments conducted over the past several years at Cornell and other locations, including one at a sewage treatment facility in New Hampshire, Jewell said his system is capable of producing high quality water from domestic sewage at rates faster than the typical treatment plant. The system works efficiently, even in cold climates. In colder areas, the plants can be grown in low-cost plastic greenhouses. Therefore, this system can be adopted anywhere in the United States for year-round operation. For a community of 10,000 people, for ex-

ample, a five-acre system should be adequate, Jewell estimated. A community of this size produces one million gallons of sewage per day. Thus far, Jewell has experimented with many kinds of plants, such as wetland plants, ornamentals, grasses, and even food crops. Among the species tested are cattails, bristly sedge, woolgrass, soft rush, bulrush, reed canary grass, phragmites, napier grass, roses, chrysanthemums, carnations, petunias, geraniums, cucumbers, tomatoes, millet, and wheat. Whether the food crops grown in this system are fit for human consumption is yet to be determined. Jewell's system consists of three treatment sections, each requiring different types of plants. The first section, called "primary treatment," is designed to trap most of the suspended solids, followed by the second section — "nutrient conversion and recovery" — where remaining suspended solids and most of the pollutants are removed. The third section, called "water polishing," puts the finishing touches to the wastewater by removing most of the remaining pollutants. "It takes only a few hours to turn grossly polluted sewage into highly purified water," Jewell said. "The quality of water produced by this system exceeds that achieved by conventional sewage treatment facilities." Since plants use sunlight for growth, among other requirements, the Cornell system relies on solar energy, and, therefore, the system is an energy-efficient as well as cost-effective alternative to the conventional system, Jewell said. In addition to turning wastewater into clean water, the nutrient film technique has several other potentially important applications. Jewell said plants grown in this system can be harvested periodically for use in generating energy in the form of methane, better known as the natural gas. Since some ornamental crops such as roses, carnations, and chrysanthemums grow well in such a system, these crops could be produced on a large scale to be marketed or used in public parks and other recreational areas of a community. In areas such as New York State's Long Island, where groundwater is contaminated with certain pollutants, the Cornell system could be used as a low-cost water supply treatment facility. Other possibilities, Jewell said, include production of drinking water from salt water through this system, because plants give off large amounts of moisture through transpiration. All one has to do is condense and collect the moisture in a greenhouse. In this situation, salt-tolerant plant species must be used. Jewell is planning to set up his system at the Ithaca municipal sewage treatment facility this spring under the sponsorship of the Gas Research Institute in Chicago and the New York State Energy Research and Development Authority. To be tested for the next two years, the system will handle 10,000 gallons of sewage per day. Summing up his work, Jewell said that the nutrient film technique "represents a real breakthrough in wastewater treatment."

## Winter Parking Rules Now in Effect on Campus

Special parking arrangements have been announced for the campus during winter months, especially to group overnight and long-term parkers in specific areas so that snow removal can be done more easily on other parts of the various university lots. The restrictions apply through April 1, and vehicles parked outside the designated areas between 2 and 5 a.m. will be ticketed and may be towed away. The specific areas and directions for those are: **A-Lot at North Campus.** Staff and faculty members and students with "A" parking permits who will be leaving their vehicles overnight in this lot should park in the northeast corner (the area closest to Pleasant Grove Road); **B-Lot at Route 366.** Likewise, vehicles should be grouped in the northwest corner (closest to the intersection of B-Lot Drive with Tower Road); **Residents of Sage Hall (SK Permits)** should park in the south bay of that section of the Kite Hill lot east of Lynah Rink. **West Campus and North Campus (WD and ND Permits)** residents may park in all WD and ND areas, as usual. Service areas, no parking zones, and life safety zones must be kept clear at all times. **Other Areas, Emergencies, Occasional and**

**Unexpected Situations.** Individuals who need to park on campus between 11 p.m. and 6 a.m. should call the Department of Public Safety at 256-1111 to make arrangements. **Inclement Weather and Campus Bus Service.** Cornell's inclement weather procedures call for campus transit service to continue in the event of a delayed opening, partial closing, closing, or snow emergency. During a snow emergency, when conditions on the campus make it impossible to clear inner campus parking areas, any vehicle registered with the university may park in the A and Blots. The AB Local bus will run at 10-minute intervals (no fare is charged during a snow emergency). Additionally, five areas are specifically designated as drop-off points where employees may be dropped off or picked up by car. The drop-off points are: 1. Sibley Hall parking lot off University Avenue; 2. The Grumman Hall parking lot off Campus Road; 3. The O parking lot at the intersection of Judd Falls Road and Tower Road; 4. A-Lot; 5. B-Lot. **For further information,** please call CU Transit at 256-3782, or the University's inclement weather information number at 256-3377.

Volume 50

**Cornell University**

University Personnel Services

Day Hall

Ithaca, New York 14853

607/256-5226

**Please Note:**

Job Opportunities is a publication of Staffing Services and is distributed each Thursday through the Cornell Chronicle.

Job Opportunities lists current vacancies with the University, consistent with the University's commitment to promotion from within, affirmative action and equal opportunity employment.

Employee Transfer Applications: Em-

ployees who wish to transfer to other jobs within the University should complete a separate Employee Transfer Application form for each position and submit the form(s) to Staffing Services. Individuals with official University layoff status are given preference in referrals.

Applicants: Applications for employment are available at Cornell University's

employment office at East Hill Plaza at the intersection of Ellis Hollow Road and Judd Falls Road in Ithaca, from 9:00 a.m. to 12:00 noon, Monday through Friday. Completed applications can be submitted through the mail to University Personnel Services, Staffing Services, 160 Day Hall, Ithaca, NY 14853.

This listing is also available on CUINFO, Cornell University's computerized information service. For further details on CUINFO, contact the Information

and Referral Center at 256-6200 or Computer Services.

Full-time jobs are 39 hours per week unless otherwise indicated. Jobs listed as SO, U1 and U2 are represented by bargaining units.

January 9, 1986

Please Post

Requirements: Master's degree in agricultural economics or a related field. Familiarity with commercial agriculture. Knowledge of statistical theory and previous experience with survey design preferred. Prior experience with micro computers essential. Please send cover letter and resume to Cynthia Smithbower.

Job Number: PT489

Position: Research Support Specialist III  
Department: Agricultural Economics

Description: Conduct research in agricultural finance and investment behavior. Includes design of research, data collection, analysis and report preparation. Appointment ends December 31, 1988.

Requirements: Master's degree in agricultural economics or related field. Farm background and agricultural finance experience preferred. Please send cover letter and resume to Cynthia Smithbower.

Job Number: PT488

Position: Applications Programmer—Analysis  
Department: Computer Services (APS)

Description: Maintain, develop and install, document, and modify administrative systems software.

Requirements: Bachelor's degree with computer related courses. Must have experience with CICS. Ability to program in COBOL necessary. Some experience with machine architecture, production procedures and systems utility programs preferred. Please send cover letter and resume to Cynthia Smithbower by January 24, 1986.

Minimum Starting Salary: \$16,500  
Job Number: PT484

Position: Administrative Manager I

Department: Applied & Engineering Physics  
Description: Work with the offices of Corporate Relations and Public Affairs to solicit external financial support. Manage departmental budget and special accounts, departmental building space, computer services, teaching laboratories. Provide proposal coordination and planning service, assemble annual report, etc.

Requirements: Bachelor's degree. Experienced corporate public affairs and/or university development. Excellent interpersonal and communication skills. Knowledge of computers preferred. Please send cover letter and resume to Ralph D. Jones.

Job Number: PA486

Position: Student Development Specialist II

Department: Veterinary Administration  
Description: An admissions officer who will be involved in many aspects of the admissions process including pre-veterinary counseling and recruiting. Major emphasis will be placed on the recruiting of minority students and the coordinating of minority summer programs.

Requirements: Master's degree or equivalent. Experience in student personnel and recruiting. Requires a great deal of traveling, often to large cities. Please send cover letter and resume to Ralph D. Jones.

Job Number: PA482

Position: Research Support Specialist II

Department: Agronomy  
Description: Provide technical support to research and development program; oversee and evaluate field and greenhouse experiments at Ithaca and at outlying sites. Ten month appointment.

Requirements: Bachelor's degree in a field related to crop production. Practical experience in agriculture including knowledge of agronomy, farm management and pest management. Must have vehicle operator's license. Please send cover letter and resume to Cynthia Smithbower by January 9, 1986.

Job Number: PT4810

Position: Senior Applications Programmer

Department: CHESS  
Description: Develop applications for a Micro Vax—CAMAC controlled data acquisition and analysis system. Will interact with scientific staff users of CHESS facility. Also program for data analysis for protein crystallography using Prime 9955.

Requirements: Bachelor's degree in computer science or related area with 3 to 5 years experience including real-time FORTRAN programming and VMS. Please send cover letter and resume to Cynthia Smithbower.

Job Number: PT4712

Position: Network Communications Specialist

Department: Computer Services, Network Communications

Description: Assist in the development and implementation of data communications facilities in a multi-vendor, decentralized academic environment which includes: 3084, 3081, 4341, and multiple VAX processors; 3705 and 4705 communications controllers; VM, CMS, CP, UNIX, EP and COMM-PR Software; Sytek, Ethernet, Pronet, PCnet and BSX/9 Local Area Networks; Async, RJE and BSC/3270 Protocols. Will be a resource to the University Community—including the recently inaugurated NSF Super Computer Facility—concerning state-of-the-art technologies and implementations.

Requirements: Bachelor's degree in electrical engineering, computer science, or related background and several years of relevant experience. Excellent interpersonal and communication skills are essential. Must have knowledge and experience in data communications. Please send cover letter and resume to Cynthia Smithbower.

Job Number: PT472

**Clerical**

Current Cornell employees should submit an employee transfer application, resume and cover letter. Outside applicants for clerical positions should submit an employment application, resume and take the Cornell University typing test (please contact the captionist at 256-5226 for an appointment). Applications and resumes typically remain active for three months; typing test scores remain on file for one year. The clerical section uses an automatic referral system; applicants are referred to positions for which they are considered qualified and competitive. U

# Job Opportunities

Cornell University is an equal opportunity, affirmative action employer.

**Administrative/Professional**

The minimum salaries listed are for recruitment purposes only.

\*Position: Associate Director of Admissions  
Department: University Admissions Office  
Description: Interpret market research findings, formulate recruitment strategies, and coordinate and implement University recruitment activities in important market area. Prepare statistical reports and analyses, recruit and develop alumni volunteers, administer recruitment budget.

Requirements: Bachelor's degree required with graduate work preferred. Five years of admissions experience required with transfer experience preferred. Candidates should have experience with a quantitative, market research based approach to planning recruitment activities. Some supervising experience required. Excellent public speaking and writing abilities. Some travel necessary. Please send cover letter and resume to Ralph D. Jones by January 30, 1986.

Job Number: PA012

\*Position: Research—Planning Associate - Enrollment Planning

Department: Institutional Planning and Analysis  
Description: Provide support in the development of management information relating to enrollment planning issues. Compile information from financial aid, admissions and student information systems to develop analyses and reports on issues relating to implications of financial aid issues, attrition and retention of students and admissions. Coordinate responses to external surveys and reports.

Requirements: Minimum of Bachelor's degree or equivalent combination of education and experience. Familiarity with operational data bases, experience in financial aid, admissions or related areas desirable. Please send cover letter and resume to Patricia E. Hutton by January 30, 1986.

Job Number: PO16

\*Position: Technical Consultant III (Three Positions)

Department: Theory Center  
Description: Provide full range of consulting services to researchers using resources of the Cornell Theory Center, including the Production Supercomputer Facility, Theorynet, and possibly the Experimental Facility.

Requirements: Bachelor's degree with graduate study in either computer science or one of the physical—biological—engineering sciences. Experience with mainframe computers essential, with VM—CMS and array processors desirable; fluency in at least two programming languages; demonstrated ability to work with complicated programs; strong written and interpersonal communication skills. Please send cover letter and resume to Cynthia Smithbower.

Job Numbers: PT0110, PT0118, PT0119

\*Position: Staff Engineer

Department: Laboratory of Nuclear Studies  
Description: Work on hardware improvements for the Cornell Electron Storage Ring, a high energy physics research facility. The job involves the design and fabrication of equipment and offers the opportunity to participate in the operations and experiments with a state-of-the-art accelerator system.

Requirements: Minimum Bachelor's degree in electrical engineering, applied physics, or physics. Experience in power equipment, computer control systems, pulse circuitry or radiofrequency devices and techniques is desirable. Please send cover letter and resume to Ralph D. Jones by January 30, 1986.

Job Number: PA0114

\*Position: Development Assistant

Department: University Development  
Description: Assist program directors in coordination of marketing and stewardship programs designed to strengthen University's relationship with major corporations and foundations. Maintain contact files, drafts correspondence, respond to inquiries, prepare briefing materials, and coordinate special events. Maintain computer based project and prospect tracking system.

Requirements: Bachelor's degree or equivalent in education and training. Excellent communication and writing skills. Some knowledge of personal computers and related software desirable. Ability to work independently and set own priorities. Ability to pay significant attention to detail oriented work. Please send cover letter and resume to Ralph D. Jones by January 30, 1986.

Job Number: PA011

\*Position: Research Support Specialist I  
Department: Cornell Institute for Social and Economic Research (CISER)

Description: Provide computing and consulting support to the New York State Information System, Survey Research Facility, and CISER Data Archive. As a data manager, assist in data base design, data management and manipulation of large New York State data sets. In addition, the consultant will aid in the development of a social science workbench that integrates microcomputers with mainframes. The consultant will provide computer consulting primarily to project PI's and CISER staff.

Requirements: Bachelor's degree or equivalent is required. Master's degree or equivalent in social science is preferred. Experience with mainframe and microcomputer data management, IBM PC's using software packages such as dBase III, 1-2-3, Kermit, and DOS. Should have expertise programming in C, Fortran, Pascal; knowledge of social science research techniques and research experience with IBM 3081 including CMS, SAS or SPSS, JCL, MVS preferred. Good written communication skills, attention to detail; ability to meet deadlines essential. Must have good interpersonal skills to work well as a consultant and part of a research support team. Please send cover letter and resume to Cynthia Smithbower by January 24, 1986.

Minimum Starting Salary: \$15,000  
Job Number: PT014

\*Position: Research Support Specialist I

Department: Section of Ecology & Systematics  
Description: Participate in design, performance and analysis of laboratory experiments on zooplankton life histories. Maintain zooplankton and phytoplankton cultures. Enumerate field samples. Organize field trips.

Requirements: Bachelor's degree in biological sciences or related field. Advanced degree preferred. Proven ability to work independently. Experience in fresh water plankton research and data manipulation preferred. Please submit cover letter and resume to Cynthia Smithbower by January 24, 1985.

Job Number: PT0113

\*Position: Research—Planning Associate (Re-post)

Department: Institutional Planning and Analysis  
Description: Coordinate the collection, analysis and reporting of data used in policy analysis, decision making and planning. Provide consulting support in development of management information relating to human resource issues; develop, collect and analyze institutional information for the University, community and government reports.

Requirements: Minimum of Bachelor's degree or equivalent combination of education and experience. Familiarity with operational data base systems, experience in institutional research, affirmative action or personnel desirable. Please send cover letter and resume to Patricia E. Hutton.

Job Number: PT4910

Position: Associate Director, Minority Educational Affairs for State Programs

Department: Minority Educational Affairs  
Description: Provide programmatic and fiscal accountability to the University, State Education Dept. and SUNY Central administration. Develop new proposals, and keep University officials informed of state guidelines and funding that affect the management and coordination of opportunity programs at Cornell University.

Requirements: Master's degree or equivalent combination of education and experience is required. A degree in student personnel administration, higher education administration, social science, or other closely related field desirable. Demonstrated background in higher educational programs that provide supportive services to minority and/or disadvantaged students is necessary. Admissions and recruitment, student financial aid, data collection and analysis, and governmental contract administration. Cornell experience strongly desired. Please send cover letter and resume to Ralph D. Jones by January 16, 1986.

Job Number: PA499

Position: VAX Systems Programmer

Department: Program of Computer Graphics  
Description: Provide, under general supervision, highly specialized systems support to an advanced graphics program. Develop complex large scale operating systems, software, and hardware. Design and oversee engineering modifications or extensions to such operating systems to meet organizational goals for computer usage. Responsible for overall system efficiency. Oversee development of scientific work stations.

Requirements: Bachelor's degree or equivalent

with related computer courses. 3 to 5 years experience with a strong background in VAX—VMS and systems programming. Ability to program in C, PASCAL, FORTRAN, and ASSEMBLER, array processors, UNIX helpful. Please send cover letter and resume to Cynthia Smithbower.

Job Number: PT498

Position: Assistant Director, Student Activities  
Department: Unions and Activities

Description: Student activities generalist. Advise over 500 organizations. Special responsibility for activities funding, major programs and popular concerts. Conducts training and development for student organizations administrators, and publishes policies related to activities on campus.

Requirements: Bachelor's degree. 1 to 3 years experience in student development and programming. Please send cover letter and resume to Ralph D. Jones by January 16, 1986.

Job Number: PA493

Position: Mechanical Designer

Department: Facilities Engineering  
Description: Responsible for the design and preparation of drawings, specifications and estimates for HVAC and other related maintenance, repair and/or construction projects.

Requirements: Associate's degree or equivalent experience. At least one year related experience must be knowledgeable of building mechanical systems, skilled in construction estimating and trained in HVAC load calculations. Excellent drafting and communication skills. Please send cover letter and resume to Ralph D. Jones by January 16, 1986.

Job Number: PA494

Position: Research Support Specialist I

Department: Food Science  
Description: Prepare pilot scale batches of cheddar cheese and perform chemical analyses of milk, cheese, and whey. Conduct literature review, summarize project data, and prepare progress reports.

Requirements: Master's degree in dairy or food science or related area with coursework in cheese making or fermentations, microbiology, dairy chemistry. Should be familiar with cheddar cheese making; moisture, fat, protein, pH, salt, direct microscopic somatic cell count, determinations in dairy products. Previous work in a research lab involving electrophoresis, summarization of research data, particularly using Lotus 1-2-3, statistical analysis, and report preparation. Please send cover letter and resume to Cynthia Smithbower by January 17, 1986.

Job Number: PT496

Position: Research Support Specialist I

Department: Food Science  
Description: Conduct chemical analyses of milk, including fatty acid analysis and electrophoresis; supervise routine milk testing. Conduct literature review, summarize project data, and prepare progress reports.

Requirements: Master's degree in dairy or food science or related area with courses in food chemistry, dairy chemistry, instrumental analysis methods and statistics. Familiarity with Lotus 1-2-3, electrophoresis, gas chromatography and spectrophotometry preferred. Some previous work experience in a research lab. Excellent interpersonal skills to work as a member of a large research group. Please send cover letter and resume to Cynthia Smithbower by January 17, 1986.

Job Number: PT495

Position: Senior Administrator

Department: Human Ecology Administration  
Description: The Director of Administrative Operations is the chief business officer for the college of Human Ecology. Responsible for financial planning, fiscal monitoring, implementation of personnel policies and coordination of administrative computing systems. This person reports directly to the Associate Dean.

Requirements: Master's degree in business or public administration, or equivalent combination of education and experience. Five years experience in a business management position. Knowledge of higher education administration. Experience in administrative systems planning. Outstanding interpersonal and communication skills. Demonstrated leadership skills, including ability to motivate people. Please send cover letter and resume to Ralph D. Jones by January 31, 1986.

Job Number: PA481

Position: Research Support Specialist I 1/4 I

Department: Agricultural Economics  
Description: Plan and develop enumerative surveys on energy utilization in New York's commercial farm sector. Appointment ends July 1, 1988.

less otherwise advertised, requests to be referred to a specific position will not be accepted. Applicants who are referred to a department for review will be contacted by the department if an interview is necessary.

NOTE: Outside applicants with training and/or experience in the following areas are encouraged to apply: typing, word processing, data entry and accounting.

\*Position: Accounts Coordinator, GR24  
Department: Restricted Fund Accounting  
Description: Monitor financial activity of restricted accounts; prepare and submit billings to sponsors; monitor receivables, correspond with sponsors and Cornell community; defend accounting system to auditors.  
Requirements: Bachelor's degree in accounting, business or related field. Strong accounting background required. Familiarity with University accounting system preferred.  
Minimum Starting Salary: \$15,370  
Job Number: CO12

\*Position: Administrative Aide, GR21  
Department: History of Philosophy of Science and Technology  
Description: General administration of program. Accounting; budget; manuscript typing, editing and word processing; handle scheduling, travel arrangements, etc.; answer telephone; other projects as assigned.  
Requirements: Associate's degree or equivalent. Heavy typing. Familiarity with academic environment. Word processing and editing skills. Ability to work independently. Excellent organizational, interpersonal and communication (written and oral) skills.  
Minimum Starting Salary: \$12,968  
Job Number: CO118

\*Position: Exhibitions Assistant, GR21  
Department: Johnson Museum  
Description: Assist museum registrar in all aspects of registration. Exhibitions; permanent collection; loans; packing; shipping and inventory. Full-time, regular until December 1, 1986.  
Requirements: Bachelor's degree or equivalent in art history or museum studies. Minimum 2-3 years museum experience. A demonstrated interest in pursuing a museum career in collections management. Strong organizational skills. Attention to detail. Please send cover letter and resume to Esther L. Smith by January 20, 1986.  
Minimum Starting Salary: \$12,968  
Job Number: CO111

\*Position: Administrative Aide, GR20 (Repost)  
Department: Institutional Planning & Analysis  
Description: Provide office support for Director and staff of 7. Statistical typing and word and record processing; file; transcription from dictation; photocopy; mail; telephone. Other projects as assigned.  
Requirements: Associate's degree or equivalent. Heavy typing. Minimum 2 to 3 years experience in service-oriented office preferred. Knowledge of word processing required; familiarity with Wang word processing desired. Experience with statistical typing and heavy text editing required. Attention to detail essential.  
Minimum Starting Salary: \$12,209  
Job Number: C484

\*Position: Administrative Aide, GR20 (Repost)  
Department: Graduate School  
Description: Provide administrative support to the Office of the Graduate Assistant Dean. Receptionist; schedule appointments; write letters; edit reports; process confidential materials. Other duties as assigned.  
Requirements: Associate's degree or equivalent. Medium typing. Previous experience in academic environment and accounting helpful. Knowledge of IBM PC. Excellent stenographic, statistical and analytical skills essential. Ability to communicate and interact well with people from diverse cultural background.  
Minimum Starting Salary: \$12,209  
Job Number: C486

\*Position: Accounts Assistant, GR20 (Repost)  
Department: Administrative Services  
Description: Process purchase orders and accounts payable vouchers; verify expenses and commitments; assist in financial analysis and reconciliations; maintain office files.  
Requirements: Associate's degree in accounting, business or equivalent office experience. Data processing course work preferred. Strong organizational and interpersonal skills. Perform detailed analyses with a minimum of supervision. Strong mathematical and analytical skills (accuracy and thoroughness essential). Experience with personal computer and Cornell accounting systems desirable.  
Minimum Starting Salary: \$12,209  
Job Number: C439

\*Position: Office Assistant, GR19 (Repost)  
Department: Office of Sponsored Programs  
Description: Provide administrative and secretarial support in the Office of Sponsored Programs. Type; update office records; handle and control a great deal of detail; maintain files; assist in general areas of grant and contract administration.  
Requirements: High school diploma or equivalent. Business or secretarial school desirable. Medium typing. Minimum 1 to 3 years secretarial experience. Good organizational skills. Strong interpersonal and communication skills. Cornell experience helpful.  
Minimum Starting Salary: \$11,570  
Job Number: C392

\*Position: Secretary, GR18  
Department: Residence Life  
Description: Provide secretarial support for Housing Assignment and Summer Conference Office. Handle word processing; screen mail for the office; assist with housing assignments. IBM-PC-XT and IBM 3270 equipment are used.  
Requirements: High school diploma or equivalent. Secretarial school desirable. Medium typing. Minimum 1-3 years experience. Word processing

and computer data entry experience preferred and/or willingness to learn (IBM-PC-XT and IBM 3270 equipment used). Strong organizational, interpersonal and communication skills essential. Excellent skills in spelling, grammar and punctuation required.

Minimum Starting Salary: \$10,920  
Job Number: CO117

\*Position: Secretary, GR18  
Department: Mathematics  
Description: Type highly technical mathematical manuscripts, class materials, exams, publications and correspondence; assist with department administration; special projects as assigned.  
Requirements: High school diploma or equivalent. Heavy typing. Some secretarial experience. Knowledge of and/or willingness to learn word processor and TRIAD using microcomputers. Ability to work in a TRIAD, active environment. Strong organizational, interpersonal and communication skills.  
Minimum Starting Salary: \$10,920  
Job Number: CO115

\*Position: Night Supervisor, GR18  
Department: University Libraries - Hotel Library  
Description: In charge of the library at night. Responsible for circulation and reserve operations; all photocopying services and newsletter distribution; compile and input Annual Bibliographies and Accessions lists; interlibrary loan. Other duties as assigned. Academic Year: Mon. - Thurs., 3:30 p.m. - midnight; Sundays 2:00 p.m. to midnight; Summers: Mon. - Fri., noon to 9:00 p.m.; Intersessions: Mon. - Fri., 8:00 a.m. - 5:00 p.m.  
Requirements: Associate's degree or equivalent; Bachelor's degree preferred. Light typing. Library experience desirable. Good clerical skills with ability to use word processors and small computers. Excellent communication, organizational and interpersonal skills.  
Minimum Starting Salary: \$10,920  
Job Number: CO116

\*Position: Nutrition Aide, GR17 (7 positions)  
Department: New York City Extension Program (Off Campus)  
Description: Work with low income families and children to acquire knowledge and skills for improving the nutritional quality of their diets. Teach mothers and youth essentials of nutrition and increase their knowledge and skills in selecting and using food.  
Requirements: High school diploma or equivalent. Bilingual (English-Spanish) desirable. Take required three week training course.  
Minimum Starting Salary: \$10,366  
Job Numbers: CO13, CO14, CO15, CO16, CO17, CO18, CO19

\*Position: Office Assistant, GR17  
Department: Purchasing  
Description: Process and type requisitions; process invoices; maintain records; assist departments, vendors and Finance and Business Office with problems relating to orders.  
Requirements: High school diploma in business or equivalent. Light typing. Minimum one year office experience desirable. Accounting and filing skills. Legible handwriting essential.  
Minimum Starting Salary: \$10,366  
Job Number: CO11

\*Position: Personnel Assistant, GR16  
Department: Personnel Services  
Description: Maintain confidential employment files for all staff and faculty at University; complete requests for verifications of employment and for credit references; process ID card replacements; sort and distribute all mail for UPS; annual mailing of W-2 forms for Cornell employees.  
Requirements: High school diploma or equivalent. Light typing. Some office experience. Excellent organizational and interpersonal skills. Ability to work independently. Confidentiality essential.  
Minimum Starting Salary: \$9,874  
Job Number: CO120

\*Position: Secretary, GR16  
Department: Computer Services (APS)  
Description: Provide general secretarial and clerical services to staff in Administrative Programming Services and Administrative Production Control. Receptionist (telephones); mail; type; copy and file. Other duties as assigned.  
Requirements: High school diploma or equivalent. Medium typing. Excellent interpersonal and communication skills. Some office experience.  
Minimum Starting Salary: \$9,874  
Job Number: C464

Position: Administrative Aide, GR20  
Department: NYSSILR-Extension & Public Service  
Description: Maintain and audit permanent student records; assist the Registrar with instructor and course approvals, etc.; compile and analyze data and produce various required and special reports; act as bursar for all statewide credit programs using the IBM PC and an accounts receivable package; maintain instructor files and arrange for their payroll; word processing and data base management on the IBM PC.  
Requirements: Associate's degree in business administration or equivalent. Medium typing. Minimum 2 to 3 years experience preferably in the registrar, bursar, and student records area of an academic

department. Knowledge of the IBM PC. Good organizational and interpersonal skills essential. Valid NYS Drivers License required.  
Minimum Starting Salary: \$12,209  
Job Number: C497

Position: Kardex Coordinator, GR20  
Department: A. R. Mann Library  
Description: Under direction of Senior Librarian, supervise personnel and the operation and maintenance of a large serials—periodicals record file; search new titles and title changes; search and order out-of-print and replacement issues; act as backup for mail sorting and check-in.

Requirements: Bachelor's degree or equivalent experience required. Light typing. Experience using RLIN or OCLC Library system and serials control desirable. Experience to assist in identifying characteristics of an automated system for serials control. Technical ability to implement the system. Successful supervisory experience essential. Foreign language ability desirable.  
Minimum Starting Salary: \$12,209  
Job Number: C499

Position: Office Assistant, GR19  
Department: General Stores  
Description: Provide assistance for the material control office. Handle accounts, etc.; type; answer phones and inquiries; file; interact with Maintenance and Service Operation staff. Other duties as assigned.  
Requirements: High school diploma or equivalent. Medium typing. Minimum 3 to 5 years secretarial experience, 1 to 2 years accounting experience. Good communication and organizational skills. CRT—word processing skills helpful. Valid NYS drivers license.  
Minimum Starting Salary: \$11,570  
Job Number: C495

Position: Research Aide, GR19  
Department: State Programs Office  
Description: Prepare demographic, statistical documents of program applicants and participants; assist in formation of program and projects; use of Wang and/or IBM terminal. Other duties as assigned.  
Requirements: High school diploma or equivalent; Associate's degree and/or some college experience desirable. Medium typing. Experience in Cornell University admissions and financial aid, and/or coursework in statistics or research methodology, with Wang—IBM terminals desirable.  
Minimum Starting Salary: \$11,570  
Job Number: C493

Position: Secretary, GR18  
Department: Food Science  
Description: Provide administrative and secretarial assistance to the Graduate Faculty Representative and two professors associated with teaching and/or research in the department of food science. Type correspondence, manuscripts, etc.; file; answer phones; handle mail; arrange travel; maintain calendars. Other duties as assigned.  
Requirements: High school diploma or equivalent. Secretarial school desirable. Heavy typing. Minimum of three years secretarial experience. Office management skills are important. Knowledge of word processors desirable.  
Minimum Starting Salary: \$10,920  
Job Number: C498

## General Service

\*Position: University Service Officer (three positions)  
Department: Public Safety  
Description: Responsibilities include prevention and detection of criminal behavior; external and internal patrol of University property within his or her area for fire, safety and crime hazards; enforcement of parking regulations occurring on the property of Cornell University.  
Requirements: High school diploma or equivalent. Further formal education, training and/or experience in the law enforcement field preferred. Satisfactory completion of basic University Service Officer training. U.S. citizenship; eyesight 20-40 corrected to 20-20; no record of convictions other than minor traffic infractions. NYS driver's license; ability to obtain NYS pistol permit within 90 days of employment. Must pass physical examination.  
Minimum Starting Salary: \$12,639  
Job Numbers: SO15, SO16, SO17

\*Position: Custodian, SO16  
Department: Buildings Care - Statutory  
Description: Provide general maintenance and custodial care of buildings and grounds in immediate vicinity of assigned area. Monday - Thursday, 6:00am - 2:30pm; Friday, 6:00am - 1:30pm.  
Requirements: Ability to use a variety of heavy power operated equipment, climb an 8' ladder and lift 50 lbs.  
Minimum Starting Salary: \$4.84—hour  
Job Number: SO14

\*Position: Custodian, SO16 (two positions)  
Department: Buildings Care - Endowed  
Description: Provide general maintenance and custodial care of buildings and grounds in immediate vicinity of assigned area. Monday - Thursday, 6:00am - 2:30pm; Friday, 6:00am - 1:30pm.  
Requirements: Ability to use a variety of heavy power operated equipment, climb an 8' ladder and lift 50 lbs.  
Minimum Starting Salary: \$4.84—hour  
Job Number: SO11, SO12

## Technical

Outside applicants for technical positions should submit an employment application, resume, transcripts and a list of laboratory techniques and equipment, or computer languages and hardware with which you are familiar. This information will be kept active for six months. For each position that you are

qualified and wish to be a candidate for, submit a cover letter, including position title, department and job number, to Cynthia Smithbower. Current Cornell employees should submit an employee transfer application, resume and cover letter. Outside applicants with training and/or experience in the following areas are encouraged to apply: biochemistry, chemistry, microbiology, electronics, physics and licensed animal health technicians.

\*Position: Technician, GR24  
Department: Physiology  
Description: Responsible for the maintenance of departmental teaching and research animal facilities involving horses, cows, pigs, dogs, sheep, goats and other species as required. Provide technical assistance in canine reproduction research projects. Duties include supervision of several animal technicians.  
Requirements: Bachelor's degree in animal science or other related field preferred. Three years animal care experience with at least two years in supervisory capacity. Familiarity with blood vessel cannulation, implant placement, blood sample collection, and other related protocols essential.  
Minimum Starting Salary: \$15,370  
Job Number: T013

\*Position: Technician, GR21  
Department: Genetics & Development  
Description: Conduct and record experiments in Drosophila molecular biology and population genetics under the direction of principal investigator; responsible for the general functioning of the laboratory, including the ordering of equipment and supplies and maintenance of bacterial and fly cultures; and assist in teaching techniques to new personnel entering the laboratory.  
Requirements: Bachelor's degree in biology or chemistry or equivalent with background in molecular biology, biochemistry or genetics desirable. Must have previous laboratory experience and be able to work independently. Apply by January 24, 1986.  
Minimum Starting Salary: \$12,968  
Job Number: T012

\*Position: Technician, GR18  
Department: Equine Drug Testing & Research - New York City  
Description: Perform analysis of blood and urine samples in a field drug testing laboratory to serve Aqueduct, Belmont and Saratoga Race Tracks. Relocation to Saratoga Springs, NY for the month of August each year. Assist laboratory director as required.  
Requirements: Associate's degree in chemistry or related field. Experience with Thin Layer Chromatography and general laboratory procedures. Familiar with Gas Chromatography.  
Minimum Starting Salary: \$10,920  
Job Number: T011

Position: Electronics Technician, GR24  
Department: Computer Science  
Description: Responsible for the technical operations of the Computer Science Department's facility including, diagnosis, repair and installation of computer hardware and supervision of installations and modifications affecting its operations.  
Requirements: Associate's degree plus knowledge of computer hardware, digital circuits, and digital data communications. Familiarity with Unix Operating System desirable. Ability to interact effectively with vendors and academics as well. Apply by January 17, 1986.  
Minimum Starting Salary: \$15,370  
Job Number: T491

Position: User Support Assistant, GR22  
Department: Office of Computer Literacy - College of Human Ecology  
Description: Assist and advise faculty, staff and students on technical aspects related to computer hardware and software. Assist users on equipment installation; answer questions on software usage (word processing, spread sheets, data base systems, statistical packages) and operation of hardware. Advise on mainframe usage.  
Requirements: Bachelor's degree or equivalent with computer courses and some related experience. Familiarity with IBM PC and Macintosh essential. Knowledge of Cornell Mainframe systems preferred. Familiarity with statistical software for mainframe and microcomputers helpful. Please send cover letter and resume by January 17, 1986.  
Minimum Starting Salary: \$13,667  
Job Number: T495

Position: Technician, GR20  
Department: Division of Nutritional Sciences  
Description: Isolate, maintain and characterize plant tissue cultures with improved amino acids. Prepare stock solutions and media, transfer cultures aseptically, extract amino acids, and prepare extractions for amino acid analyzer. Appointment ends September 30, 1986; renewal contingent on continued funding.  
Requirements: Bachelor's degree in chemistry or biology. Experience with basic lab equipment such as pH meter, fraction collectors, spectrophotometer, scintillation counter, and similar equipment. Apply by January 17, 1986.  
Minimum Starting Salary: \$12,209  
Job Number: T494

Position: Technician, GR18  
Department: Equine Drug Testing and Research - NYC  
Description: Perform analysis of blood and urine samples in a field drug testing laboratory to serve Aqueduct, Belmont and Saratoga Race Tracks. Relocation to Saratoga Springs, NY for the month of August each year. Assist laboratory director as required.  
Requirements: Associate's degree in chemistry or a related field. Some experience with Thin Layer Chromatography and general laboratory procedures.

# Job Opportunities

Continued from Page 5

dures preferred. Familiarity with Gas Chromatography helpful. Apply by January 17, 1986.  
Minimum Starting Salary: \$10,920  
Job Number: T492

Position: Research Assistant II  
Department: Boyce Thompson Institute-Contact department directly (see below)  
Description: Field and laboratory research associated with fungal pathogens of insects. Will implement experimental procedures on a day-to-day basis with some independence although a close working relationship with the principal investigator is expected. One year appointment with possible extensions.

Requirements: Bachelor's degree in the biological sciences with some research experience with either insects or fungi.

Contact: Dr. Raymond Carruthers, Boyce Thompson Institute, 257-2030  
Minimum Starting Salary: \$12,000  
Job Number: T493

Position: Technician, GR21  
Department: Diagnostic Laboratory  
Description: Perform variety of microbiological techniques including AGID tests, serum neutralization tests, complement fixation and antigen preparation and standardization. Overall responsibility for all samples submitted for the Blue Tongue and Bovine Leukosis virus state survey program.

Requirements: Bachelor of Science or equivalent in microbiology or related field; 2 years laboratory experience preferred. Experience in serology and infectious agents. Good sterile techniques required and experience in complement fixation and tissue culture desired. Apply by January 9, 1986.

Minimum Starting Salary: \$12,968  
Job Number: T484

Position: Technician, GR21  
Department: Veterinary Microbiology -James A. Baker Institute for Animal Health  
Description: Provide full range of support in laboratory which uses monoclonal antibodies and primary cell culture techniques to study the antigenicity of influenza viruses. Duties include cell culture, assays, lab maintenance, recording results and data, and animal handling. Appointment ends December 31, 1986.

Requirements: Bachelor's degree in biological sciences. 1 to 2 years laboratory experience in virology and cell culture, specifically making hybridomas. Apply by January 9, 1986.  
Minimum Starting Salary: \$12,968  
Job Number: T482

Position: Research Equipment Technician, GR25  
Department: Cornell High Energy Synchrotron Source (CHESS)

Description: Perform all operations necessary to fabricate and assemble parts working from drawings, sketches and oral instructions using standard shop machinery such as lathes, milling machines, drill presses and certain specialized machinery. Will also aid in the assembly and testing of final parts.

Requirements: Associate's degree in mechanical technology, or a documented apprenticeship experience. Proven ability to prepare drawings, to assist in the design and testing of specialized apparatus for x-ray diffraction experiments. Experience in creative design and mechanical skills essential. Apply by January 9, 1986.

Minimum Starting Salary: \$16,239  
Job Number: T474

## Part-time

\*Position: Research Support Specialist II (Repost)

Department: Agricultural Economics  
Description: Responsible for translating identified biotechnology research into formats to be used by the biotechnology industry in the state of New York for the purpose of fostering and supporting expansion of the industry. Will develop and publish regularly a newsletter, as well as develop a system to enable biotechnology firms to access scientific information bases. One year appointment. 20 hours per week.

Requirements: Bachelor's degree with significant courses in biological sciences. Proven writing ability. Prior experience writing scientific and technical information for general audiences. Computer experience desirable. Format training in journalism and/or communication preferred. Please send cover letter and resume to Cynthia Smithbower by January 24, 1986.

Job Number: PT471

\*Position: Technician, GR18  
Department: Division of Nutritional Sciences  
Description: Conduct behavioral experiments with rats, analyze data, order lab supplies, and aid in literature reviews. Part-time, regular until September 30, 1986. 30 hours per week.

Requirements: Bachelor's degree in biology or related field with some courses in biopsychology. Experience in handling rats, giving injections, conducting behavioral experiments and implanting intracerebral cannulae preferred. Apply by January 24, 1986.

Minimum Starting Salary: \$10,920—annual equivalent  
Job Number: T015

\*Position: Office Assistant, GR16  
Department: University Development  
Description: Assist Major Gifts Clerk in the matching and reconciliation of gift records and donor lists; update and maintain information on giving club levels. Other duties as assigned. Part-time, regular; 20 hours per week.

Requirements: High school diploma or equivalent. Some office experience. Light typing. Some

business math helpful.

Minimum Starting Salary: \$9,874—annual equivalent  
Job Number: C0114

\*Position: Custodian, SO16  
Department: Ornithology - Endowed  
Description: Provide general maintenance and custodial care of buildings and grounds in immediate vicinity of assigned area. 20-25 hours per week; to be arranged.

Requirements: Ability to use a variety of heavy power operated equipment, climb an 8' ladder and lift 50 lbs.

Minimum Starting Salary: \$4.84—hour  
Job Number: SO13

Position: Applications Programmer I  
Department: Office of Computer Literacy  
Description: Provide programming support in Project EZRA and Foundation funded projects for instructional computing program. Provide technical and programming assistance to student programmers working on instructional computing projects other than Project EZRA. Assist in the development of instructional software. Part-time, regular; Monday - Friday, 20 hours per week.

Requirements: Bachelor's degree or equivalent with computer science coursework with some related experience. Must have experience with IBM PC and Apple Macintosh. Ability to program in at least two high level programming languages such as BASIC and PASCAL. Please send cover letter and resume to Cynthia Smithbower by January 17, 1986.

Job Number: PT497

Position: Accountant II (Repost)  
Department: Office of Financial Aid & Student Employment

Description: General supervision of all Financial Aid and Student Employment Office Accounts. Assist with preparation of office budget request and federal fiscal operations report; provide audit trails for all accounts and conduct internal audits as required; train and consultation for professional and clerical staff on daily operation and federal and office accounts. Monday-Friday, 2 1/2 days per week.

Requirements: Bachelor's degree or equivalent. Minimum 1 to 2 years in accounting or auditing. Familiarity with Cornell accounting system and/or knowledge of federal programs. Please send cover letter and resume to Esther L. Smith.

Job Number: PC467

## Temporary

TEMPORARY OPPORTUNITIES: Individuals qualified for temporary work in the following areas are encouraged to apply: clerical, secretarial, word processing. If you have experience or skills in these or related areas and are interested in learning more about these opportunities, please call Laurie Worsell at 256-5226.

\*Position: Casual Animal Caretaker  
Department: Division of Nutritional Sciences  
Description: Feed, clean and water research animals. Part-time, casual for one year. Weekends and holidays; 10 hours per week.  
Requirements: Ability to work with research animals. Be flexible as to hours.  
Job Number: S018

Position: Temporary Office Assistant  
Department: Neurobiology & Behavior  
Description: Act as receptionist; schedule rooms; handle registration and assignments for large introductory course, Biological Science 101-104; record keeping; file; maintain student records and possible manuscript preparation. Full-time, temporary until April 1, 1986.

Requirements: High school diploma or equivalent. Medium typing. Minimum one to two years receptionist experience helpful. Word processor training helpful. Please send cover letter and resume to Laurie Worsell by January 9, 1986.  
Minimum Starting Salary: \$5.25—hour  
Job Number: C492

Position: Temporary Word Processing Operator  
Department: Agricultural Economics  
Description: Assist in the preparation of course materials and research projects using the word processor. File; answer phones; handle mail. Part-time, temporary, casual appointment. Monday - Friday, 15-19 hours per week.

Requirements: High school diploma or equivalent. Medium typing. Working knowledge of word processor. Some office experience. Please send cover letter and resume to Laurie Worsell by January 9, 1986.

Minimum Starting Salary: \$5.37—hour  
Job Number: C488

Position: Temporary Technician  
Department: Division of Nutritional Sciences  
Description: Assist P.I. with research of nutritional biochemistry of dietary lipids, carotenoids and micronutrients and carcinogenesis. Perform chemical and biochemical analyses. Provide routine care of lab animals such as feed, weigh, assist with surgical procedures. Full-time, temporary until March 30, 1986.

Requirements: Bachelor's degree or equivalent in natural sciences with strong background in chemistry or biochemistry. Familiar with general biochemical techniques. Lab experience in analytical chemistry. Histology experience preferred but not required. Must be able to work with lab animals. Apply by January 9, 1986.

Minimum Starting Salary: \$5-6—hour  
Job Number: T475

Position: Temporary Office Assistant, GR18 (Repost)  
Department: Theatre Arts

Description: Receptionist for heavy phone and walk-in traffic; distribute mail; run copy machine; run errands on campus; course scheduling. Part-time, temporary until May 21, 1986. 8 hours per week; to be arranged.

Requirements: High school diploma or equivalent. Light typing. Previous office experience preferred.

Minimum starting Salary: \$5.37—hour  
Job Number: C4710

Position: Temporary Office Assistant (Repost)  
Department: Media Services

Description: Assist Media Services staff with a multifaceted publications project by maintaining detailed records and a master log, tracking the various components (manuscripts, proof, art work, etc.); deliver and pick up materials on campus; run errands; attend all meetings (and take minutes) involving this project; perform light typing and/or word processing; maintain regular contact with authors, staff, and vendors via telephone and in person to ensure all are thoroughly aware of project status. Part-time, temporary; approximately 6 months duration or until end of project. Five days per week; 6 hours per day.

Requirements: High school diploma or equivalent. Light typing. Knowledge of word processing and/or use of personal computer desirable. Attention to detail. Excellent organizational, interpersonal and communication skills.

Minimum Starting Salary: \$5.10—hour  
Job Number: C4717

Position: Temporary Office Assistant—Receptionist (Repost)

Department: Arts and Sciences Admissions  
Description: Greet people; answer phones; provide secretarial support to Associate Director; handle other duties as assigned by students records coordinator. Full-time, temporary until May 1, 1986.

Requirements: High school diploma or equivalent. Some college desirable. Knowledge of Xerox 860 helpful.

Minimum Starting Salary: \$4.50—hour  
Job Number: C4716

Position: Accounts Assistant—Secretary (Repost)

Department: Geological Sciences  
Description: Data input and word processing using an IBM PC; type correspondence; file. Other duties as assigned. Part-time, temporary for 6 months. Monday - Friday, 8:00am - 12:00noon.

Requirements: High school diploma or equivalent. Some college desirable. Heavy typing. IBM PC experience helpful. Please send cover letter and resume to Laurie Conlon.

Minimum Starting Salary: \$5.37—hour  
Job Number: C467

Position: Collection Representative, GR17 (Repost)

Department: Bursar  
Description: Collection of delinquent student

loan accounts through written and telephone communications. Locating delinquent borrowers through "skip tracing" techniques. Part-time, temporary, Tuesday - Thursday, 4:30 - 8:30pm.

Requirements: High school diploma or equivalent. Good written and telephone communication skills. Collections experience preferred.  
Job Number: C444

## Academic

Please contact department directly.

\*Position: Faculty: Avian Medicine  
Department: Avian & Aquatic Animal Medicine, NYS College of Veterinary Medicine  
Contact: Dr. B.W. Calnek, Chairman, Department of Avian and Aquatic Animal Medicine  
Job Number: A011

\*Position: Assistant Professor of Natural Resources and Natural Sciences  
Department: Natural Resources  
Contact: Dr. James P. Lassoie, Search Committee Chair, Department of Natural Resources, Fernow Hall, College of Agriculture and Life Sciences  
Job Number: A012

\*Position: Extension Associate III  
Department: Entomology  
Contact: Kean S. Goh, Chemicals-Pesticides Program, Department of Entomology  
Job Number: A013

Position: Faculty  
Department: Division of Biological Science, Ecology and Systematics, Evolutionary Biology  
Contact: Harry T. Stinson, 200 Stimson Hall, Division of Biological Science  
Job Number: A491

Position: Assistant Professor of Animal Behavior  
Department: Division of Biological Science, Neurobiology and Behavior  
Contact: Dr. Stephen T. Emlen, W363 Seelye G. Mudd Hall  
Job Number: A492

Position: Assistant Professor in Systematic Botany  
Department: Division of Biological Science  
Contact: Harry T. Stinson, 200 Stimson Hall, Division of Biological Science  
Job Number: A493

Position: Post-Doctoral Associate  
Department: Department of Horticultural Sciences  
Contact: Dr. Bruce I. Reisch, Department of Horticultural Sciences, NYS Agricultural Experiment Station, Cornell University, Geneva, NY 14456  
Job Number: A494

## Graduate Bulletin

Jan. 17, 1986 is the deadline for a January degree. There can be no exception granted.

University registration will be at Barton Hall on Friday, Jan. 24, 1986 from 8 to 11:30 a.m. and 1 to 4 p.m. Students must appear in person to register.

For more information on the fellowships listed below contact the Graduate School Fellowship office or your graduate faculty representative.

Jan. 24, 1986—Continuing Graduate Student Fellowship applications must be completed and returned to the graduate faculty representative. Applications are available in the graduate faculty representatives' offices.

Jan. 15, 1986—International Peace Schol-

## Barton Blotter

A total of 2,376 books valued at \$3,800 were stolen from a faculty office on campus sometime between Dec. 20 and 23, according to the morning reports of the Department of Public Safety.

Paul F. Velleman, associate professor of industrial and labor relations, reported that the books were taken from his office at 358 Ives Hall.

The theft was one of 18 on campus during the 21-day period between Dec. 16 and Jan. 5. Eight of the thefts were of cash totaling \$300.33, taken mostly from offices, three in Baker Laboratory alone.

Other stolen items included \$470 worth of com-

puter diskettes taken from Uris Hall and a \$380 radar detector taken from a car parked at Kite Hill.

A 23-year-old Lansing man was still being held in Tompkins County Jail yesterday (Jan. 8) in lieu of \$11,000 bail bond, pending grand jury action on charges of sexual abuse, burglary and criminal trespass. The man was arrested in Cascadilla Hall by Public Safety officers about 7 a.m. Dec. 20 after complaints by several residents of the dormitory. One person, a female, charged she had been fondled by the individual.

## Judicial Administrator

### Case Summaries—December 1985

The Office of the Judicial Administrator reports the following case summaries for December 1985. The abbreviations used are WR for written reprimand, CS for community service, rest. for restitution and susp. for suspended. The number of defendants in each case is one (1) unless otherwise specified.

Endangerment to other persons in a dorm by disconnecting a smoke detector: WR; 40 hrs CS with 30 susp.

Theft of a parking permit and cassette tapes; alteration and misuse of a parking permit; and providing false information to the University with intent to deceive: WR; 40 hrs CS with 20 susp.

Endangerment to others by engaging in a fight: WR; 40 hrs CS with 20 susp.

Furnishing false information to the University with intent to deceive: WR; 30 hrs CS with 10 susp.

Endangerment to persons and property by lighting a candle in the lounge of a dorm: WR; 40 hrs CS with 20 susp.

Endangerment by throwing a rolled-up piece of paper at hockey players during a game: WR; 10 hrs CS susp.

Endangerment to persons and property in a dorm by lighting a candle and leaving it unattended: WR; 40 hrs CS plus rest.

Damage to a carpet in a dorm: WR; 40 hrs CS plus \$168 rest.

Endangerment to others in a dorm by lighting firecrackers: WR; 40 hrs CS; (2 defendants)

Walking on the ice between periods during the Harvard-Cornell hockey game and placing a chicken in the goal: WR; 10 hrs CS

Refusal to comply with orders of a Unions & Activities employee, after being found in possession of a floor buffer: WR; 40 hrs CS

Refusal to comply with an order of a Unions & Activities employee and urging another person to violate the Code: WR; 40 hrs CS

Theft of a tree belonging to Cornell Plantations: WR; 30 hrs CS plus \$400 rest.

# AGRICULTURE 1986

## Cornellians View Many Aspects of a Mixed Outlook for Farmers

### Coordination Is Imperative

The bright future promised by scientific developments in agriculture will not be fully realized unless new technologies are coordinated with social and economic factors, according to Norman R. Scott, director of research for the State College of Agriculture and Life Sciences.

He said agricultural research must become a broad-based effort that coordinates a myriad of economic and technological factors.

"We've got to put together not only the production of a product but also a system to handle that product and a strategy to market it," Scott explained.

For example, someone who wishes to develop an aquaculture business must know more than how to raise fish, Scott said.

"You have to know where the fish are going to be sold, how they will be handled, and how they will be transported. You must bring together marketing, handling, processing and transportation," he emphasized.

Scott is also a professor of agricultural engineering.

Emphasizing the need for coordination in agricultural production and research, Scott predicted that biotechnology, microcomputing, microelectronics, and robotics will play vital roles in future agricultural research.

For example, disease-resistant crops can be developed through conventional plant breeding methods or more exotic genetic engineering. Livestock can be made more productive by using newly developed growth hormones. Energy production can be boosted by creating strains of bacteria that can turn agricultural waste into ethanol on an industrial scale.

Developments in microcomputing and robotics can lead to computer controlled fermentation, automated packaging, marketing research, and other improvements to agribusiness.

In dairy herds, electronics will make it possible to achieve automated electronic identification of livestock, recording cows' milk yields, and detection of farm animals in estrus.

Coordination of technological developments in these fields with economic and social factors is essential for the continued health of the rapidly changing agricultural industry, Scott stressed.

"Agriculture today is facing some major issues such as increased interstate competition for markets, reduction in government supports, high interest rates, changing consumer trends, shrinking export markets, and changes in the country's population," Scott said.

In order to cope with the future effectively, agriculture's researchers and industries must take those issues into account, Scott said.

### Outlook Good For Vegetables

The outlook for vegetable growers is bright for those who are willing to adapt their production and marketing to shifting consumer tastes, according to a Cornell economist.

"The outlook is positive for vegetable growers who are market-oriented," according to R. Brian How, a professor of agricultural economics at the State College of Agriculture and Life Sciences.

Speaking at the annual Agribusiness Outlook Conference in December, How said that many vegetable growers have not reaped the benefits of the increased demand for vegetables over the past decade.

Those growers who have been left behind are growing "traditional" vegetables, such as yellow globe onions, carrots, and round white potatoes.

Although the total spectrum of produce is in more demand, the significant areas of market growth have been in "specialty" vegetables, such as herbs, greens, and many ethnic vegetables such as snow peas and Chinese cabbage.

"There has been a tremendous upsurge in the demand for fresh vegetables and fruits over the past 10 years," How said. "However, the traditional products have not been the ones that have enjoyed the bulk of the increase demand."

For example, round white potatoes, which are commonly grown in northeastern states, such as New York, Pennsylvania, and Maine, aren't as much in demand as are the russet varieties grown in many western states.

As a result, more and more eastern fields are being planted with the russet potato, How said. For example, Maine increased its russet potato acreage by 15 percent in 1985, while its acreage of round white potatoes went up only 6 percent.



Stories written  
By YONG H. KIM  
and SUSAN S. LANG

### Growth to Be 'Sluggish' at Best

American agriculture is in recession and won't be recovering any time soon, but the situation probably won't get much worse, a Cornell University economist has predicted.

Kenneth L. Robinson, a professor of agricultural economics in the New York State College of Agriculture and Life Sciences at Cornell, said that, for agriculture, there isn't any strong recovery around the corner.

"It's not going to get worse, but it's not going to turn around quickly either," he said.

Speaking at the "Agribusiness Outlook Conference," held here in December, Robinson predicted that U.S. agribusiness will remain depressed and that the nation's economy as a whole would expand only moderately in 1986.

"It's growing, but it's a sluggish growth," Robinson said.

Robinson predicted an increase in personal income and expenditures for 1986, "but there won't be enough economic activity to sustain a significantly higher rate of growth."

### Generally, It's Not Encouraging

The 1986 economic outlook for America's farmers is not encouraging, despite projections of stable, or in some cases lower, operating expenses, according to a Cornell University agricultural economist.

In 1986, farmers will be paying about the same or even less for fuel, fertilizer, feed, and other inputs, but unfortunately they will be receiving lower prices for much of what they produce, said George L. Casler, a professor of agricultural economics in the State College of Agriculture and Life Sciences.

"Generally, farm expenses will be about the same or a little lower next year, but most farm prices will be lower as well," Casler said.

### Alternative Uses for State's Land

As the dairy industry in New York State undergoes a steady decline, alternative uses of land and other resources becoming available from reduced dairy operations are becoming increasingly important, says a scientist here.

Speaking at the annual Agribusiness Outlook Conference in December, Danny G. Fox, a beef specialist in the State College of Agriculture and Life Sciences at Cornell, said that boosting beef cattle, sheep, and swine production is a logical alternative because much of the land used for dairying is suited for grain and forage production.

The use of these resources for meat animals would add more than \$300 million annually to New York's agricultural income, resulting in a net benefit to rural communities of an estimated \$1 billion, he said.

Pointing to past and projected changes in dairying, Fox said that the number of dairy cows in New York has declined by 300,000 over the past 25 years, along with a drop in the number of dairy farms by more than 25,000.

"This trend is expected to continue, with another decline of up to 25 percent of dairy farms anticipated over the next decade," Fox predicted. "As a result, more than three million acres of land and an unaccounted number of farmsteads have been or will become idle."

The development of alternative uses for these resources to boost other segments of the livestock industry, such as beef, swine, and sheep, would be of great benefit, Fox said.

Taking note of the continued reliance in the

According to Robinson, the nation's gross national product, the production of all goods and services in a given year, grew quickly in 1983 and the first half of 1984. Since then, the GNP growth has slowed considerably.

"For 1986, the growth rate probably will be no more than 3 percent," Robinson said.

The Cornell economist contended that the economy will continue to be sluggish for several reasons. For example, a slight growth in income and employment during the past few months "is going to help the situation, but it isn't enough to spark a boom in the nation's economy — whether it be in agriculture or other areas."

Discretionary income for purchases is expected to be limited next year, because consumers will be compelled to allocate a substantial portion of their incomes for debt repayment. Other factors limiting growth include indications of "disappointing" business profits and a weak demand for commercial loans.

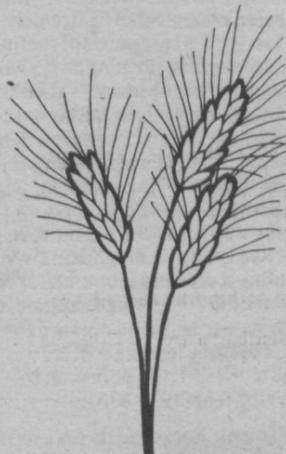
Casler made his remarks while discussing the 1986 economic outlook for the nation's farmers during the Agribusiness Outlook Conference in December.

The lower prices farmers will receive for their grain and some other products are largely due to an "oversupply" situation, Casler said. American farmers continue a high rate of production in spite of a slow-growing domestic market and increasing foreign competition.

As farmers continue to receive low prices, he said, some step up production to make up for the decreased revenue. That stepped-up production, however, makes the oversupply situation even worse.

Northeast on meat animals produced in the Midwest, the Cornell scientist said, "Our present meat animal numbers are too small and widely scattered" to meet the demand in this part of the country.

Steps needed to take advantages of the strong Northeast market, he suggested, are to "increase our marketing power with existing supplies," which in turn will stimulate increased production, and to produce at or below the cost of production in competing regions, primarily the Midwest.



### Not as Rough as in Midwest

New York's farmers have their share of financial problems, but they are not as bad off as farmers in the West and Midwest.

Cornell University agricultural economist Eddy L. LaDue made that point during the Agribusiness Outlook Conference in December.

Outlining the financial situation of New York state agribusiness, LaDue said the state's farms, agricultural supplies, and farm lending institutions are in better shape than those in some other states because the prices of New York's major farm products — particularly milk — are more stable than corn, soybeans, and other Midwest crops — and New York land values have remained relatively stable.

"New York's agriculture is largely a dairy-based economy, and the dairy prices have not been down as much and as long as grain," LaDue said. a professor in the State College of Agriculture and Life Sciences.

### Farm Families Are in Stress

Economic stress in families is much more the rule than the exception, says a Cornell University family life specialist.

Unemployment and income variability cause less strain on families today than during the great depression of the 1930s, "but if the economic safety net keeps being dismantled, the effect on families could be devastating," warns Christiann Dean, a Cornell Cooperative Extension specialist in human development and family studies.

It used to be thought that only a small segment of the population suffered economic stress, but a recent study by a Cornell consumer economist suggests that income variability is much more common than income stability in families.

If families don't have strong, healthy relationships and supportive social networks, the negative impact of such economic stress on families can be profound, said Dean, who made her remarks at an economic training school here in December.

"Research suggests, however, that events that can cause extreme stress in one family would hardly precipitate a crisis in another family," said Dean, who is co-author of Family Matters Project materials for a series of three workshops designed to build on strengths in parents and those who work with families. That means that some families have certain mechanisms that help them cope better with stress.

Families during the Great Depression, for example, suffered more from unemployment. Many families today are protected by unemployment insurance benefits and have a different attitude toward work. In the past, many men viewed unemployment as personal failure. Today, more people are objective about the economic plight that their families endure, realizing that many factors are beyond their control.

"Unfortunately, though, many men — particularly farmers who are under economic stress now — still view their economic problems as a personal reflection of their abilities rather than acknowledging that their adverse circumstances are caused by factors beyond their control," Dean said.

Another reason why families during the Great Depression suffered more from economic stress was that more families had rigid sex roles than they have in the 1980s. As a result, it was much more difficult for men to accept wives working when their husbands could not.

Modern families that have rigid sex roles also tend to fare far worse under stress than families in which sex roles are more flexible. Also, the stronger the family, the more invulnerable it is to stress.

What characterizes a strong, healthy family?

"Such a family enjoys one another's company, accepts and appreciates one another, and openly communicates feelings and gripes with one another," Dean said. "A very important quality of strong families is the sharing of power. Families that are democratic in decisions and money matters, for example, are usually much more cohesive than families in which there is unilateral decision making."

Other factors that contribute to healthy families include the ability to resolve conflicts, the regular experience of enjoyable quality time together, and a good family spirit.

## OBITUARIES



### Dian Fossey

Dian Fossey, defender of Africa's mountain gorillas and visiting associate professor of neurobiology and behavior at Cornell from 1980 to 1982, was buried New Year's Eve at Karisoke Research Centre, Rwanda.

The 53-year-old zoologist was found dead Dec. 26 at Karisoke, the rain forest camp she established during 18 years of research and conservation efforts on behalf of these extremely rare primates. Associates speculate Fossey was slain by poachers, whose gorilla traps she and others frequently destroyed.

Fossey was a former occupational therapist whose mid-life career changed to recognition as the world's leading authority on mountain gorillas. She received research support from the National Geographic Society, the Leakey Foundation, the Humane Society of the United States and the Morris Foundation, and others. Her field studies of the gentle and misunderstood gorillas were described in articles for National Geographic magazine, PBS television specials and in the 1983 book, "Gorillas in the Mist."

Before coming to Cornell, Fossey spent 13 years in the last mountain gorilla habitat, the Virunga Mountains of central Africa. She gained the confidence of the giant creatures by communicating in vocalizations and gestures, living first in a tent and then in a cabin where she sometimes housed orphaned baby gorillas.

"She was the champion of those beasts, not only against poaching but against destruction of their habitat," said Professor of Biology Kraig Adler. The estimated 240 mountain gorillas are threatened by poachers --

who capture younger animals and make souvenirs of the hands and skulls of adults -- as well as by deforestation of mountainsides and the presence of tourists.

Adler, together with former faculty member Glenn Hausfater, brought Fossey to Cornell where she lectured to undergraduate courses. He praised her "tremendous strength and courage to do the things she did," an adamant position that apparently resulted in her murder. Reuters news service reported some arrests in the slaying, which was by knife or machete, and that investigations by Rwandan authorities are continuing.

"She really loved her students and they thought highly of her," Adler said, commenting that her pioneering research was a "very important first step" in that area of animal behavior.

Dian Fossey was born Jan. 16, 1932. She earned a Ph.D. in zoology from Cambridge University in 1974. After Cornell, Fossey taught at the State University of New York College at Plattsburgh and returned to Africa in 1982. Her last visit to Ithaca was in July 1985.

Memorial contributions may be made to the Digit Fund, named for the friendly "silver-back" male who became familiar to National Geographic readers and who was later killed by poachers. The Digit Fund supports the work of the Karisoke camp, including the patrols that continue to cut down gorilla traps and bring poachers to justice. The mailing address for tax-deductible donations is PO Box 25, Ithaca, NY 14851.

## Herrell F. DeGraff

Herrell F. DeGraff, former H. E. Babcock Professor of Food Economics and professor of agricultural economics, emeritus, died Saturday, Jan. 4 at Tompkins Community Hospital.

Born and raised on a farm in Orleans County (New York), DeGraff earned the B.S. (1937), and Ph.D. (1941) degrees from Cornell. He joined the faculty in the New York State College of Agriculture and Life Sciences in 1940. From 1948 to 1953, he was a faculty representative to the University's Board of Trustees.

In 1956, he was offered the position of assistant secretary of agriculture in the Eisenhower administration, but turned it down to continue in the Babcock Professorship. He did serve as an adviser to Eisenhower's Secretary of Agriculture, Ezra Taft Benson.

After his retirement in 1962, DeGraff was a visiting lecturer at Cornell in agricultural economics and food science.

In addition to his service to Cornell, DeGraff was active in several national organizations, including the American Meat Institute in Chicago, the national trade association of the meat industry. He was president of the institute from 1963 to 1973.

DeGraff had been a member of the board of the Tompkins Community Hospital, a position he held for more than 20 years beginning in



the 1950s and again in the 1970s.

A memorial service will be held Saturday, Jan. 18 at 2 p.m. at First Presbyterian Church, Ithaca.

## Brief Reports

### Tickets Now on Sale For Black Gospel Concert

Tickets for the tenth annual Festival of Black Gospel opening concert are now on sale. The concert, which will feature the Richard Smallwood singers and the Howard University Gospel Choir, will take place at 8 P.M. Friday, Feb. 7 in Bailey Hall.

Ticket prices are: \$5 (students), \$6 (non-students), \$7 (at the door). Tickets may be purchased at the Willard Straight Hall ticket office, Ithaca College's Egbert Union, Rebob Records and Logos Bookstore.

### Olin Reference Department Will Offer Two Seminars

The Olin Library reference department will offer two research seminars for graduate students, faculty, and interested staff during January.

The first session will take place on Jan. 15 from 10 a.m. to noon. It will focus on the Olin reference collection, Olin's union card catalogs, subject search strategy, computer assisted search services, and interlibrary loans.

The second seminar, scheduled for Jan. 17

from 10 a.m. until noon, will concentrate on the organization, use, and location of government documents at Cornell. To register, sign up at the Olin reference desk or call 256-3319.

### Bloodmobile Scheduled At WSH Monday, Jan. 13

An American Red Cross Bloodmobile visit to campus will be held from 10 a.m. to 3:45 p.m. Monday, Jan. 13, in Willard Straight Hall.

Advance appointments for the period from 10 a.m. to 1 p.m. may be made by calling 256-7285. Walk-ins will be welcomed from 1 to 3:45 p.m.

### Phi Beta Kappa Honors Cornell Press Book

A book published by the Cornell University Press is winner of one of the 1985 Phi Beta Kappa book awards.

This year, "The Scientific Reinterpretation of Form" by Norma E. Emerton, who teaches in the Department of History and Philosophy of Science at Cambridge University, is the winner in science.

## The Week in Sports

### Seven Key Home Games This Week as Dozen Teams See Action

By JOHN HERON  
Sports Information

With classes out of session, Cornell athletes will spend their energies in gymnasiums and ice rinks during the coming weeks. Seven crucial home games are on tap this week as 12 varsity teams will be in action. There will be a basketball-hockey doubleheader on both Friday and Saturday evenings.

In home action, the Big Red men's basketball team will open its conference slate against a talented Columbia squad at 6:30 p.m. Saturday, while the women's team will play host to St. Francis at 6:30 p.m. Friday at Barton Hall. The men's hockey team will face two western challenges when it entertains RPI Friday and Vermont on Saturday. Both games are slated to get under way at 8:30 p.m. The men's gymnastics squad will take on Kent State Saturday at 1 p.m. in Teagle, and the men's and women's fencing teams will play host to both Princeton and Army Saturday starting at noon.

Athletic teams will be active on the road as well. The men's wrestling team travels to West Point to take on Army Friday afternoon. On Saturday, the men's and women's swimming team will compete against Navy in Annapolis, while the women's hockey team visits Boston that day to play Harvard before skating against Dartmouth on Sunday. The men's and women's track squads will be at the Syracuse Invitational and the men's gymnastics team will meet Princeton, both on Sunday afternoon.

As the men's basketball team makes its final preparations for the start of the Ivy League season, the conference race should be one of the most competitive in recent years. Columbia, which leads the series with Cornell 99-65, placed second in the Ivy League last year, while Cornell finished a game behind in third place.



CHRIS NORTON  
Hockey



SIO MOSS  
Fencing

The women's basketball team faced some rugged competition in the Rainbow Wahine Classic in Honolulu this past weekend, but the squad represented the university extremely well. Cornell lost its first two games of the tournament but rebounded with a thrilling 54-53 win over the University of New Mexico — thanks to senior Heidi Johnson's 40-foot basket at the buzzer — to place seventh in the tournament.

Such late-game heroics haven't been necessary this year at Barton Hall where the Big Red is 2-1. Cornell will face St. Francis for the first time ever in the team's only game this week. The Big Red is led by senior Karin Dwyer, the team's leading scorer and rebounder, averaging 16.7 points and 7.8 rebounds a game, respectively. Dwyer needs just 34 points to become Cornell's all-time leading scorer, surpassing the mark of 1,105 points set by Rhonda Anderson from 1979-83.

The Cornell men's hockey team may have picked the right time in the season to start a hot streak. Coming off its first tournament

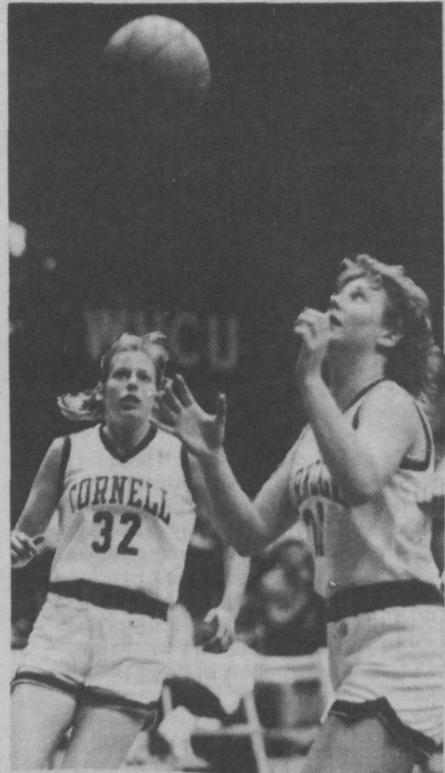
championship in five years — garnering three wins to capture the B.C. Centennial Tournament in Vancouver, British Columbia — the Big Red plunges into the perils of ECAC play, which has been a study in parity this season.

Cornell improved its record to 7-2-2 overall in winning the UBC Tournament this past weekend, defeating the University of British Columbia (5-2), Seibu of Japan (4-2) and Yale (5-3). The Big Red currently stands sixth in the ECAC with a 3-2-1 record.

After almost a month break from competition, the men's gymnastics squad will get right back into the thick of its schedule against non-league rival Kent State in the first meeting ever between the two squads. Cornell lost its first two meets of the season to Navy and Massachusetts, but the Big Red will be striving for an unprecedented third-straight winning season in the 1985-86 campaign. Junior Bruce Sonnenfeld, who won the floor exercise in the first triangular meet, senior Dave Feeney and junior Todd Raessler are the top veteran performers and all three own school records in their specialties.

The men's and women's fencing teams will try to get the new year off on a winning note vs. Army and conference opponent Princeton. The event is Cornell's first competition of the regular season. The men's squad, which was winless in five Ivy bouts a year ago, will challenge a Princeton team which was 2-3 in the Ivies and 9-6 overall last year. Cornell is 7-23 in the series against the Tigers, losing 20-7 in last season's encounter.

Siobhan Moss, a two-time honorable mention All-American, is the central figure on the women's fencing squad, which finished 8-8 overall and 1-3 in the Ivy League last season.



Senior co-captains Heidi Johnson (left) and Karin Dwyer (right) have made headlines on the basketball court. Johnson provided some timely heroics to win one game last week while Dwyer is closing in on the all-time scoring record.