CORNELL Chronicle

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New freshman class shows continuing high quality

By Sam Segal

The incoming freshman class, slightly larger than the target number of 2,980, matches the quality profile of recent classes and shows a small increase in the number of underrepresented-minority students.

"Overall, the picture is very good," said Donald A. Saleh, acting dean of admissions and financial aid. "Applications were up, selectivity was up, yield was up and the class size is very close to target."

Saleh said increasing the numbers of blacks, Hispanics and American Indians remains a "real challenge and a top priority," but he said a freshman-class increase in Hispanics – 205 students, up to 7 percent from last year's 5 percent – is "clearly in the right direction."

The 15 American Indian students represent a six-student increase, and the 134 African Americans a 15-student increase, though the number remains only 4 percent of the class.

Asian Americans numbered 485, down to 16 percent from last year's figure of 17 percent.

Applications were up by 5 percent over the previous year's – to 19,860 – and the number of accepted applicants who, in turn, accepted Cornell rose by 1 point to 47 percent. Saleh expects the final fall enrollment to show a little below 3,050 freshmen.

The proportion in the top 10 percent of their high-school classes rose from 81 to 83 percent; those with math SAT scores above 600 remained at 87 percent; and those with verbal SATs above 600 rose from 50 to 53 percent.

The male/female percentage split is 54/46, changed from last year's 55/45; the proportion of students from the Northeast rose from 69 to 72 percent; and the number of foreign students, at 167, fell from 7 to 5 percent.

The class includes 323 children of alumni (down from 11 to 10.5 percent), 49 children of employees (up 8 students), 147 Cornell

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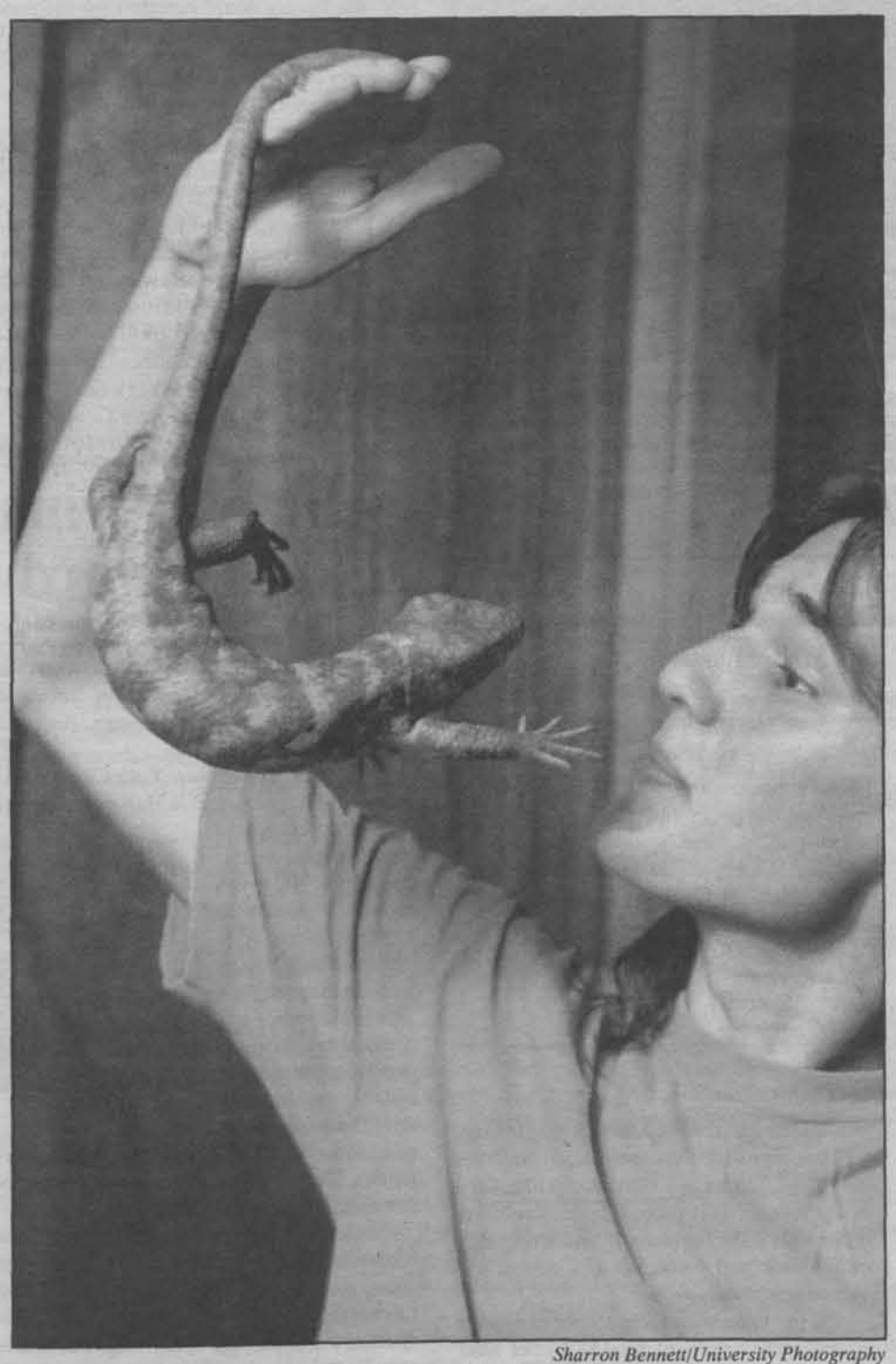

Sharron Bennett/University Photography

Kevin Zippel holds one of his Solomon Islands skinks.

Student discovers undocumented tail design in Solomon Islands skink

By Roger Segelken

Robotic arms might be more dexterous if they mimicked the muscle arrangement found by a Cornell student zoologist in the tail of an unusual lizard, the Solomon Islands skink.

Dwelling high in the leafy treetops of Papua New Guinea's Bougainville Island and moving about as fast as the vegetation they eat, Solomon Islands skinks (*Corucia zebrata*) evolved an important adaptation for their leisurely lifestyle: a prehensile (or grasping) tail that coils around branches like a corkscrew, serves as a fifth limb when the front legs are busy and saves the lizard if it starts to fall.

Kevin C. Zippel, a longtime keeper of pet lizards and a May 1994 Cornell graduate in biological sciences, performed a comparative anatomical analysis of the skink tail and other muscle arrangements. He found a system that is rare in the animal world and previously undocumented in animal tails. Zippel discovered bundles of cone-shaped muscles, "like stacks of sno-cones," as he puts it, that are strongly attached to a tunic-like sheath but barely attached to the bones of its tail vertebrae. Between the muscle bundles and the bone is a layer of energy-storing fat. The muscle arrangement is so unusual that it defies comparison.

"Lots of animals have prehensile organs," said Zippel, who conducted the study for his senior honors thesis. "Prehensile monkey tails are articulated linkages, and they work like our arms, with flexor and extensor muscles and the attached bones serving as points of support and resistance to compressive forces. The other main system is the muscular hydrostat, like an elephant's trunk, where there is no bone but the muscles on one side shorten, the other side lengthens and a tendinous sheath prevents a change in circumference." Prehensile tails in certain chameleons, which Zippel also studied for comparison, use the articulated linkage arrangement.

It was not until the late 1970s that a third, combined muscle arrangement was described in sharks, Zippel acknowledged. Sharks' distinctive swimming motion comes from conical muscles that are connected to their vertebral columns as well as to three-dimensional arrays of tendons in and around their muscles. And shark muscles are the closest comparison to what the student found in the skink tail, according to John E.A. Bertram, assistant professor of anatomy in the College of Veterinary Medicine and Zippel's adviser in the senior honors project.

'One part of the tail can remain rigid while other parts are flexible, and they can twist and turn in virtually any direction.'

– Kevin Zippel

Under Bertram's tutelage, Zippel presented his findings July 29 to the Society for the Study of Amphibians and Reptiles in Athens, Ga. He is preparing an article for the *Journal of Morphology*.

Zippel could avoid using live lizards for his dissection and comparative anatomical studies because of the availability of Solomon Islands skinks that die at zoos and in transit for the pet trade. The green, dinosaur-like lizards grow to 2 feet in length and retail for up to $200 apiece, he said. A grant from the College of Agriculture and Life Sciences, where Zippel graduated in May, helped cover the costs of frozen skinks for dissection, four live skinks for observation and associated expenses.

Continued on page 2

Faculty wants President Rhodes' successor to stress core functions

By Sam Segal

Cornell's faculty say the trait most important in the next president should be support for research, with defense of free speech a fairly distant second priority, followed closely by support for undergraduate education.

The rest of the faculty's top 10 presidential priorities were: support for graduate education, ability to foster "purpose and community," fund-raising ability, making good appointments, cutting administrative and support staff, public-relations ability and sharing decision-making with the faculty.

Several issues usually given priority in formal deliberations by the faculty and administration turned up low on the list of the 239 individual faculty members responding to the survey that was mailed in June to almost 1,600.

Maintaining Cornell's affordability and strengthening diversity, for instance, were 11th and 12th in importance, their vote counts lagging far behind those of the top 10. And readiness to reallocate academic resources, financial-management ability and readiness to lead academic reorganization ranked 17, 18 and 19.

The survey was conducted by the Faculty Advisory Committee formed to bring faculty views to the Board of Trustees' Presidential Search Committee, whose chairman, Paul Tregurtha, had sought faculty input and advice.

Dean of the Faculty Peter Stein, who analyzed the responses with the faculty committee, said the top priorities – essentially the core business of the university – were not surprising but that there was some surprise at the relative indifference to the future president's academic record.

The faculty were asked to rate 21 traits with a five-point scale – essential, very important, desirable, irrelevant or not desirable. When the 21 were plotted according to the number of "essential" responses that each received, "a distinguished academic"

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BRIEFS

■ **English teachers:** Interested in helping people from foreign countries associated with the Cornell community? The Cornell Campus Club has a program for teaching English as a second language to persons temporarily in Ithaca. The classes require a two-hour commitment per week, plus preparation. For more information contact Ann Marie Dullea at 277-2488 or Joan McMinn at 277-0013.

■ **Waste workshop:** "Becoming Wise," a free hands-on workshop for all youth educators, including teachers, scout leaders and after-school providers, will be held Wednesday, Aug. 24, from 9 a.m. to noon at the Cornell Cooperative Extension Education Center, 615 Willow Ave. Call Bara Hotchkiss, 273-6632, or Susie Criswell, 272-2292, to register. Participants must register by Friday, Aug. 19.

■ **Work disruption on campus:** There is some disruption in the area between the A.D. White House and Big Red Barn as improvements are being made. Work began on Monday, Aug. 15, and will continue for a month. It will include placement of new stone edging on existing gravel walks at the garden, flagstone work on sidewalks and brick paving work on the entranceway. Also, the patio will be redone in front of the Big Red Barn. If there are any questions or problems, call Pete Capalongo at 255-7277 or Customer Service at 255-5322.

■ **Road closed:** Tower Road is scheduled to close Monday, Aug. 22. Campus buses will detour around the road beginning the 22nd. Schedules will be available on the buses on Friday, Aug. 19.

■ **Crisis volunteers needed:** Suicide Prevention and Crisis Service (SPCS) of Tompkins County Inc. seeks open-minded, compassionate adults over 21 years of age to serve as volunteer crisis counselors. No experience is necessary. Applicants will receive a six-week training program to learn effective communication, crisis intervention and suicide prevention skills. Volunteers participate on a one-to-one basis with Cornell and other Ithaca community members struggling with depression, family and work difficulties, addictions, suicidal feelings and other problems. Applications must be submitted by Sept. 16, but are welcome immediately, as space is limited. The training will begin Sept. 29. For more information and applications, call Judy or Mike at 272-1505 between 9 a.m. and 4 p.m.

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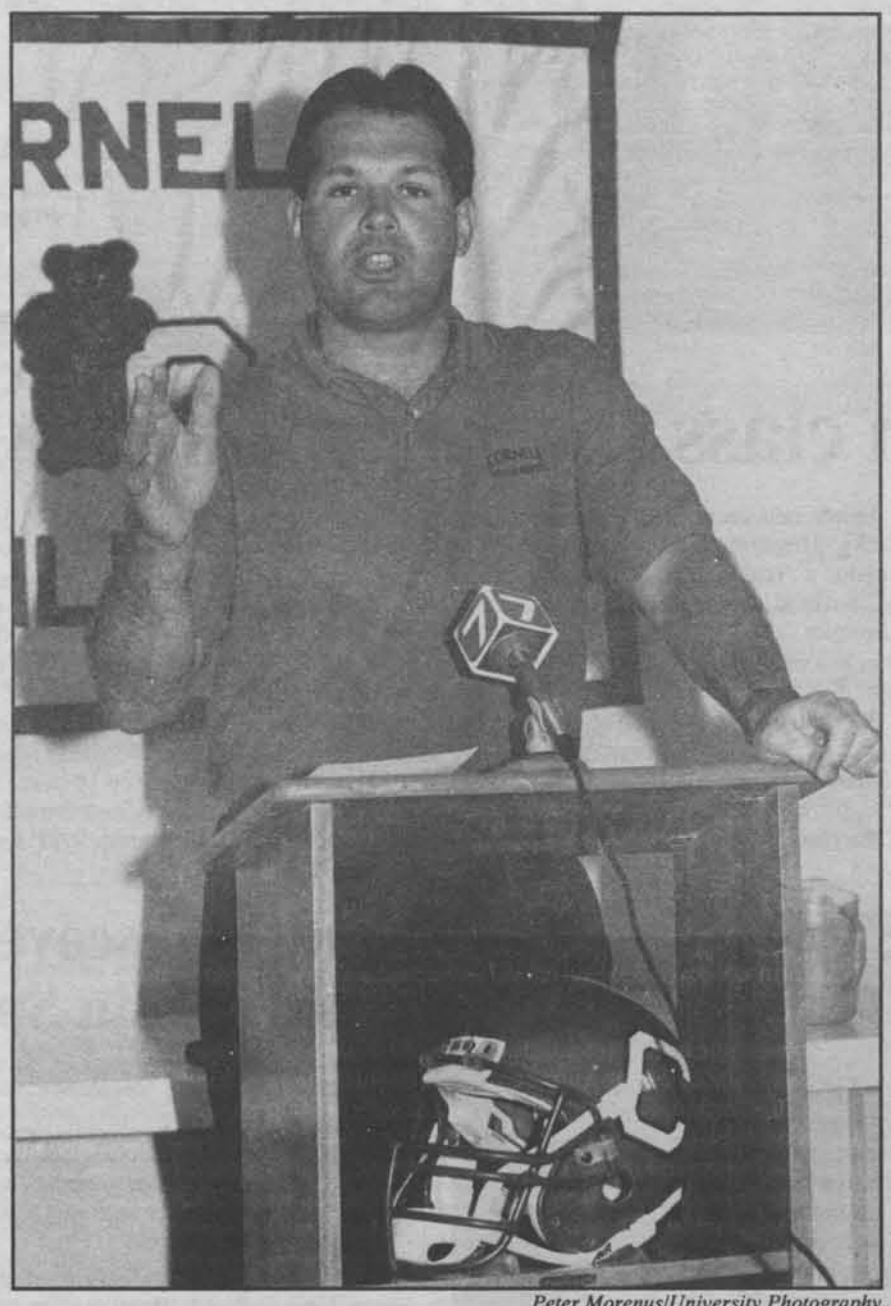
Big Red is ready



Peter Morenus/University Photography

Cornell Big Red Football Head Coach Jim Hofher, speaking at a recent press conference, declared his team ready for the 1994-95 season, which opens Sept. 17 at 1 p.m. against Princeton at Schoellkopf Field. The Cornell offense will be led by senior Per Larson of Pasadena, Calif. Senior wide receivers Aaron Berryman and Ronald Mateo are among the 34 returning lettermen.

APPOINTMENTS

The following administrative appointments have been approved, effective July 1:

John U. Wolff, professor in the Department of Modern Languages and Linguistics, College of Arts and Sciences, appointed director of the Southeast Asia Program for a three-year term; **Richard H.J. Warkentin**, Sibley School of Mechanical and Aerospace Engineering, College of Engineering, reappointed the Harvey Kinzelberg '67 Lecturer of Entrepreneurship in the College of Engineering for a three-year term; and **Sunn Shelley Wong**, assistant professor in the Department of English, College of Arts and Sciences, appointed acting director of the Asian-American Studies Program for one year.

Skink *continued from page 1*

"This study of skinks and chameleons demonstrates the independent derivation (in evolution) of prehensile tails," Bertram commented. "In evolution, there is often no single, perfect solution and usually several adequate solutions." Bertram teaches classes in biomechanics. A Cornell student engineer already is working on a robotic snake, based on the system found in the skink's tail.

In the meantime, Zippel's lizards lounge in a spacious terrarium at his Ithaca apartment. At night the creatures wake for a dinner of fresh vegetables and fruit. They particularly like bananas. Most of the time they sleep on tree branches, their prehensile tails coiled like the tendrils of a jungle vine.

The omnidirection capability of the skink tails gives Zippel and Bertram an idea for a better robot. Most robotic appendages are patterned on the human arm and wrist; they move back and forth, up and down, and sometimes rotate.

"Skink tails, with their stacks of muscle cones, have them all beat," Zippel said. "One part of the tail can remain rigid while other parts are flexible, and they can twist and turn in virtually any direction. The tail alone can support the weight of the entire animal," he said, noting the morphological definition of a prehensile tail. "Robotics engineers should check them out."

Freshman class *continued from page 1*

Tradition Fellows (up from 138) and 64 Cornell National Scholars (up from 52).

Those demonstrating need for some kind of financial aid appeared to be up slightly from last year's 47 percent, but Saleh said it was premature to be precise about how much aid eligibility would be exercised.

Last year, Cornell stayed within its financial-aid budget of about $40 million, including funds from the general-purpose budget, gifts and endowment. Saleh said he expected to be within the budget again this year.

NOTABLES

Yet another graduate of the Creative Writing Program has collected yet another national writing award: **Manette Ansay,** M.F.A. 1991, has won the 1994 Associated Writing Programs Series Competition for short fiction. Her collection, *Read This and Tell Me What it Says*, will be published by the University of Massachusetts Press in 1995. In April, **Jennifer Cornell,** M.F.A. 1994, won the 1994 Drue Heinz Literature Prize. She was the third Cornell writer in four years to win the Drue Heinz, widely considered the most prestigious award for unpublished short fiction. Ansay's most recent award was her third in as many years since graduating from Cornell and going on to teach at Vanderbilt University. In 1992, she won the Nelson Algren Prize, and in 1993 she won a National Endowment for the Arts grant. Her first novel, *Vinegar Hill*, will be published by Viking next month.

◆

Jerome M. Ziegler, professor emeritus in the Department of Human Service Studies, was elected president of the board of directors of Statewide Youth Advocacy Inc. of Albany for the 1994-95 year. Ziegler, who has been a board member for the past three years, was dean of the College of Human Ecology from 1978-88.

◆

Thomas Henick-Kling, associate professor of food science and technology, received the New York Wine & Grape Foundation Research Award 1994 for major contributions in enology research for the New York wine industry. The award recognizes significant achievement in research in grape growing, processing and enology. Henick-Kling holds a joint appointment in research and extension at the New York State Agricultural Experiment Station in Geneva.

Composer wins ASCAP award

Composer Roberto Sierra, assistant professor of music at Cornell, has won his second award in as many years from the American Society of Composers, Authors and Publishers (ASCAP).

ASCAP, based in New York City, represents 35,000 members in numerous countries and distributes royalties to its writer-members. It gives awards annually to artists who have demonstrated exceptional work in the past year. The awards are granted by an independent panel and are based upon the unique prestige value of each writer's catalog of original compositions. The amount of the cash award was not announced.

Sierra

Sierra, considered one of Puerto Rico's most prolific composers, was recently commissioned by the Pittsburgh Symphony Orchestra to write a concerto for violinist Andres Cardenas, the symphony's concertmaster. The work will make its world premiere Dec. 8, at Heinz Hall in Pittsburgh.

In May, Sierra's most recent recording, "Tropicalia," was released under the Koss Classics label. "Tropicalia" features Sierra's works performed by the Milwaukee Symphony Orchestra under the direction of Zdenek Macal.

Sierra studied at the Puerto Rico Conservatory of Music, the University of Puerto Rico, the University of London, the Institute of Sonology in Utrecht, Holland, and the Hochscule fur Musick in Hamburg, where he studied under Gyorgy Ligeti. Prior to joining Cornell in 1992, Sierra served as director of cultural activities at the University of Puerto Rico and later as chancellor of the Puerto Rico Conservatory of Music.

Faculty-in-residence aim to get to know students better

By Ericka Taylor

While the majority of Cornell faculty packs up at the end of the day, abandoning offices far above Cayuga's waters, Carl Hopkins walks across the campus but doesn't leave it. The neurobiology and behavior professor lives with his family in Townhouse Community, one of Cornell's undergraduate residence halls.

Hopkins lives on campus as part of Campus Life's Faculty-in-Residence (FIR) program, established in 1980. Faculty participants in the program live in residence halls rent-free for a term of two years (renewable once). The program is designed to give Cornell students and faculty a chance to interact outside of a formal academic setting and to enhance the cultural, social and intellectual life in the residence halls. There currently are nine Faculty-in-Residence and more than 80 Faculty Fellows at Cornell.

Faculty are expected to be available for academic advising and to arrange occasional programs and seminars for the residents. More important, the faculty are expected to integrate themselves fully into the residential community.

FIR tend to become much more involved with the residents in their own halls. Given complimentary meals for themselves and their guests, it is common for FIR to share meals with students. No less common are study breaks, film series, open houses, plays, concerts and recreational activities arranged by FIR. There are as many types of activities as there are individuals in the program.

The activities Hopkins arranges are varied but always enjoyable, he said. From the concerts he attends with his residents to "pizza with the professors," Hopkins said he appreciates "breaking down the barriers" between students and faculty. It's nice to be able to run into a student from one of his classes while eating in a dining hall, he said.

Hopkins believes that the best part of his experience as a FIR has been his opportunity to "learn so much new about the way students live." Though he'd had numerous misconceptions about student behavior, he has developed a better understanding of them during his term. Now, while he is not as surprised by how students live, he continues to enjoy being around them.

Of the five years Valsin DuMontier has been affiliated with Campus Life, three have been spent working with Hopkins. The experience has been "great," said the residential community coordinator. Hopkins and his family are very accessible to the residents and have become "famous for baking cheesecakes and inviting people over or loaning the use of their gas grill. The door is always open."

Peter Morenus/University Photography

Associate Professor Jennifer Gerner sits in front of Sperry Hall with her sons Joshua, 15, left, and Nicholas, 11. Gerner is a faculty member in residence.

Another FIR who strives to be accessible to her residents is Jennifer Gerner. Gerner lives in Sperry Hall on West Campus, an area largely populated by freshmen. Before applying to the Faculty-in-Residence program, Gerner had served a term as a Faculty Fellow in the Class of '18 Hall.

Jennifer Gerner, faculty member in residence, enjoys 'seeing what whole lives are like.'

Faculty Fellows are similar to FIR but do not live in the residence halls. They are instead provided with space in their residence complexes, which they can use as a base for their activities. Like Faculty-in-Residence, Faculty Fellows are expected to integrate themselves into the residential community. Gerner believes that the Faculty Fellow program is less intense than the residence program and hence good preparation for FIR.

Programming in the freshman residence halls tends to be a little more difficult, she said, because freshmen are less interested in establishing out-of-class contact with faculty. They have just left the authority of their parents and don't search out interaction with other authority figures, she said. One way to foster better relations between the residents there and the faculty is to work closely with the residence staff, she said.

For Gerner, the most enjoyable part of being a FIR is "seeing what whole lives are like." In class, faculty only see one aspect of a student, she said, but living with students deepens faculty understanding of them. Gerner, who used to get "annoyed when they don't do their homework and so forth" said she now understands sometimes why it doesn't get done.

Next year, Gerner hopes to take advantage of having three female FIR on West Campus and organize a group of freshman women to discuss women's issues. Interest should run high if next year's students have the same response to Gerner as last year's.

Students feel comfortable with Gerner, according to Sperry's residential community coordinator, Janet Alperstein. They "go to her for advice about classes" and seem to enjoy Gerner's company and that of her sons, Joshua and Nicholas. Alperstein attributes the success of this year partly to Gerner's willingness to go to virtually every residence adviser staff meeting. Gerner is active with the residence hall staff as well as with the residents themselves, she said.

Sugar, suckling reduce pain and distress in infants, studies show

By Susan Lang

Not only can sweet water calm the pain and distress of newborns. So does suckling, and the flavor and digestion of milk fat, according to a series of Cornell studies. Lactose, the sugar in milk, however, does not reduce pain or stress.

The studies are the first to show a strong link between taste, pain and stress reduction in infants, and they deepen the understanding of the relationship between behavior and physiology, says the researcher who conducted the studies.

"We're finding that the biological functions of suckling, whether by bottle or breast, are not only nutritive but also psychological and physiological," said Elliott Blass, Cornell professor of psychology and nutrition. "Both suckling and taste produce a calmer state in infants by reducing pain and stress through several different biochemical pathways. As a result, infants save calories. They also open their eyes, which allows them to learn about the world – especially their mothers."

Blass, who teaches courses in motivation and developmental psychobiology, said that when babies cry or flail, the calories expended are stolen from infant growth and development. Mechanisms that reduce an infant's stress, therefore, are important for survival.

Blass' overview of this research, comprising more than two dozen studies with both rats and human infants conducted over the past six years, was published in May by the Society for Research in Child Development. Its title is *A New Look at Some Old Mechanisms in Human Newborns: Taste and Tactile Determinants of State, Affect and Action.*

Blass and his colleagues have found in studies with both human and rat infants that table sugar (sucrose) reduces a newborn's pain and distress by triggering endorphins (endogenous opioids), the body's natural painkillers. The sugar in milk (lactose) has no effect on calming babies; in fact, some babies cried more when given lactose.

The flavor and digestion of the fat in the milk, however, appear to trigger the release of the gut hormone cholecystokinin (CCK), which calms the baby, but not through the opioid pathway. The mouth movements of suckling, however, uses yet another neurological mechanism, but not an endorphin one to induce calm.

'Both suckling and taste produce a calmer state in infants by reducing pain and stress through several different biochemical pathways.'

– Elliott Blass

Among Blass' findings:

• A few drops of sugar water (or a pacifier dipped in a solution of about one-half teaspoon of table sugar per cup of water) has a quick and powerful calming effect that lasts up to five minutes. It significantly decreases heart rate and flailing while promoting hand-to-mouth movements. Although sucrose is not present in mothers' milk, it stimulates the same opioid mechanisms as does the fat in milk.

• When standard heel-lancing procedures are performed on newborns, the babies' crying was reduced by about 50 percent with a taste of sugar water two minutes before the procedure.

• These calming effects appear strongest in infants up to 28 days old, when the mechanisms fade or change.

• A plain pacifier soothes babies more rapidly but also more fleetingly than does sugar water.

• While babies born to methadone-dependent mothers are calmed by pacifiers, as are normal babies, they do not respond to sugar water, suggesting that the mechanisms in normal babies are opioid driven, a mechanism that is known to be destroyed in methadone babies.

• When allowed to suck on a pacifier, methadone infants reduced the amount of milk they needed to grow normally. This finding offers a relatively easy way to reduce the stress of these infants.

"Learning how mothers influence their infants through suckling is of biological importance. It not only gives us a glimpse of how the process of cultural transmission begins from the mother to child but also how the biology of a mammal allows survival behaviors to occur," Blass said. "These studies also illustrate the dramatic interplay between behavior and physiology in infants that optimize energy gain and reduce energy loss during early development."

Blass will look next at how the mechanisms change as infants grow older than one month and how the deficits caused by methadone may be better overcome.

Waste-reduction program focuses on neighborhoods

By Roger Segelken

Give low-income families a reason to reduce waste and shopping behavior will change.

That's what Cornell educators proved in the program, "Get the Goods, Not the Garbage." After families participated in waste-reduction training in New York City and an upstate county, they purchased more reusable, recyclable and recycled-content products. "Get the Goods" families recycled more materials and chose products with less packaging, Cornell consumer economists found.

But economy was not the main motivation for change, said Jeanne M. Hogarth, Cornell associate professor of consumer economics and housing, who co-directed "Get the Goods" with Ellen Z. Harrison, head of the Waste Management Institute at Cornell's Center for the Environment.

'More environmental damage occurs in the manufacturing than in the disposal of packaging and goods; if people buy less, less has to be manufactured.'

– Ellen Harrison

"Even before we developed the 'Get the Goods, Not the Garbage' program," Hogarth reported, "we asked a cross-section of low-income parents: What would it take to make you pay more attention to waste reduction? Saving money was the third most important reason. More people said they would pay attention to waste reduction if it meant a cleaner neighborhood or if it would make a better world for their children. So we tried to show how waste reduction relates to family and neighborhood."

Said Harrison: "We focused on low-income families because there is less participation nationwide by that sector in recycling and other waste-reduction activities. And we concentrated on grocery store products and packaging because they are a major component of the household waste stream."

A Cornell team designed the "Get the Goods" training materials for paraprofessional and volunteer teachers in existing food-related programs, such as the Cooperative Extension System's Expanded Food and Nutrition Education Program (EFNEP), although the lessons can be used alone, too. The program urges consumers to follow the five R's of waste reduction: reduce, reuse, recycle, buy recycled and respond (to manufacturers as well as retailers).

"The main message is that the best way to protect the environment and save money is to prevent waste in the first place – by not buying and bringing home unnecessary products and packages," Harrison said. "More environmental damage occurs in the manufacturing than in the disposal of packaging and goods; if people buy less, less has to be manufactured."

The first tests of "Get the Goods" were in diverse areas where EFNEP training for low-income households is offered – rural Steuben County, including Corning, Hammondsport and Bath, the Jamaica section of Queens and Brooklyn's Bedford-Stuyvesant. Before and after training, families were surveyed to determine their level of waste-reduction knowledge and participation.

The results are encouraging for the program, which is ready for national distribution. While only 67 percent of families in New York City and Steuben County recycled before the training, more than 85 percent did so afterward. Two-thirds began to buy reusable products, where barely half did before, and 48 percent bought products with less packaging, up from 31.2 percent. The biggest change was in the purchase of products with recycled contents – 56.8 percent after the training compared with 24.7 percent before.

Peter Morenus/University Photography

Jeanne Hogarth with food packaging at her office in Martha Van Rensselaer.

Faculty *continued from page 1*

ranked 15, "significant academic career" 16 and "prominence in higher education" 20.

The results were about the same when the "very important" responses were added in with the "essential" responses. In that case, "significant academic career" ranked 16, "a distinguished academic" 17 and "prominence in higher education" 20.

The faculty committee, in written comments on the survey, expressed surprise at "the low weight given to 'has had a significant career as a faculty member.'" They said they probably had failed to differentiate clearly between a strong and effective professorial career ("significant") and one that, in addition, had achieved renown ("distinguished"). They added:

"We believe from our experience that the faculty want a president who has spent a significant part of his or her career as a researcher and teacher, but that academic fame, while desirable, is not necessary."

The actual number of "essential" votes cast by the 239 respondents ranged from 130 for the top choice – support for research – to 17 for the 21st, or last, choice – support for international links. In between, the numbers included 108 for defending free speech (number 2), 83 for sharing decision-making with faculty (number 10) and 48 for strengthening diversity (number 12).

The survey summary, along with nine pages of edited comments from 89 of the respondents, was sent to Tregurtha and then presented to the Trustees' Search Committee at its July 26 meeting.

The trustees will appoint the successor to Frank H.T. Rhodes, who announced in March that he would step down on June 30.

To assist it in its search, the trustees' committee sought input not only from the faculty but also from the University Assembly (which includes representatives from the Employee Assembly and the two student assemblies), the Medical College and the alumni body.

Each of these bodies established advisory committees or other channels for keeping in touch with Tregurtha's committee, which itself formed subcommittees to facilitate communication with those groups. In addition, national advertisements invited applications and nominations; and letters were sent to employees, alumni, students, parents, legislators and supporters of the university.

Zoning laws restrict senior housing options

By Susan Lang

Although housing innovations could keep thousands of elderly from economic hardship, entering nursing homes prematurely or living in substandard housing, zoning laws inadvertently stand in the way, according to a Cornell expert.

"Despite court rulings that overturn outdated zoning laws that were written 20 or 30 years ago to preserve neighborhoods for 'traditional' families, similar local zoning laws still stand in many communities because they have not been challenged," said Patricia Baron Pollak, Cornell associate professor of consumer economics and housing and director of Housing Options for Seniors Today, a public education program of Cornell Cooperative Extension and the New York State Office for the Aging.

'Communities are being deprived of the outlook and diversity offered when the elderly remain a vital part of community life and families are denied the opportunity to care for an elderly loved one economically while retaining family privacy. We all lose.'

– Patricia Baron Pollak

In New York, for example the *McMinn vs. Town of Oyster Bay* case maintained that a zoning definition of family limiting the number of unrelated people allowed to live together was unconstitutional. Yet, local zoning laws stand until challenged.

"Current zoning in many communities nationwide deprives unrelated seniors the social and economic opportunity of living together or the opportunity to live in their own unit on a relative's property. They are prevented from 'aging in place' with close social supports in mixed-aged neighborhoods instead of in 'age ghettos,'" said Pollak, a housing policy expert who is also the chair of the American Planning Association's Division of Housing and Human Services.

For more than 10 years, Pollak has been studying how local housing policy decisions affect households and how communities can use their existing housing stock to create affordable housing units for the elderly. She has studied creative housing solutions for the elderly around the world and has developed strategies for instituting them in the United States.

These housing options include:

• Match-up home sharing: Two or three unrelated people share a home and living expenses. The homeowner (or renter) and home seekers are matched on their own or through a community-sponsored program.

• Shared residence: A group of unrelated people lives together as a "volunteer family." Meals, chores and sometimes management of the house are shared. The residence usually is owned and sponsored by a non-profit agency.

• Accessory apartment: An apartment built onto or into an existing single-family house, a small but complete living unit.

• Elder cottage or "granny" flat: A small, free-standing unit, separate from the main house, usually used temporarily by a relative of the homeowner and later removed when no longer needed.

"Community concerns about neighborhood quality can be alleviated by avoiding two front doors facing the street, restricting how much of a lot can be occupied by the house and an elder cottage together, and specifying shared water and utility hookups to avoid subdivision in the future," Pollak pointed out. "Other concerns such as parking problems and noise can also be dealt with."

Pollak calls for municipalities "to take a hard look at their zoning regulations and revise them to allow these badly needed housing options."

To examine local zoning laws, Pollak suggests consulting with a local office of Cornell Cooperative Extension or going to the local planning board and municipal legislative body, such as the city council or town supervisor.

Pollak has published widely on housing options for seniors, including the monograph, *Key Zoning Issues for Shared Residences for Older Persons,* published by the American Association of Retired Persons, and a chapter on the same topic published in the *1993 Zoning and Planning Law Handbook* and *Community-Based Housing for the Elderly: A Zoning Guide for Planners and Municipal Officials,* published by the American Planning Association.

Campus Club offers free English language classes

By Barbara Yien

The category is "Action" and the word Yuki Tanaka has to describe is "pitch."

"This happens in baseball and is when the player throws the ball," she says as she stands in front of the room, her arms simulating the pitching motion.

Pretty obvious, most of us might think, unless – like Tanaka and her teammates – one is learning English as a second language. Then, the difference between "pitch" and "bat" is not always so clear. Or the distinction between "mole" and "freckle." Or the meaning of everyday English phrases, such as "stick-shift" or "seeing-eye-dog."

Confronted with the last, Tanaka's Spanish-speaking classmate, Nancy Ostos de Bernal, explains, "I know each word but I don't know them together."

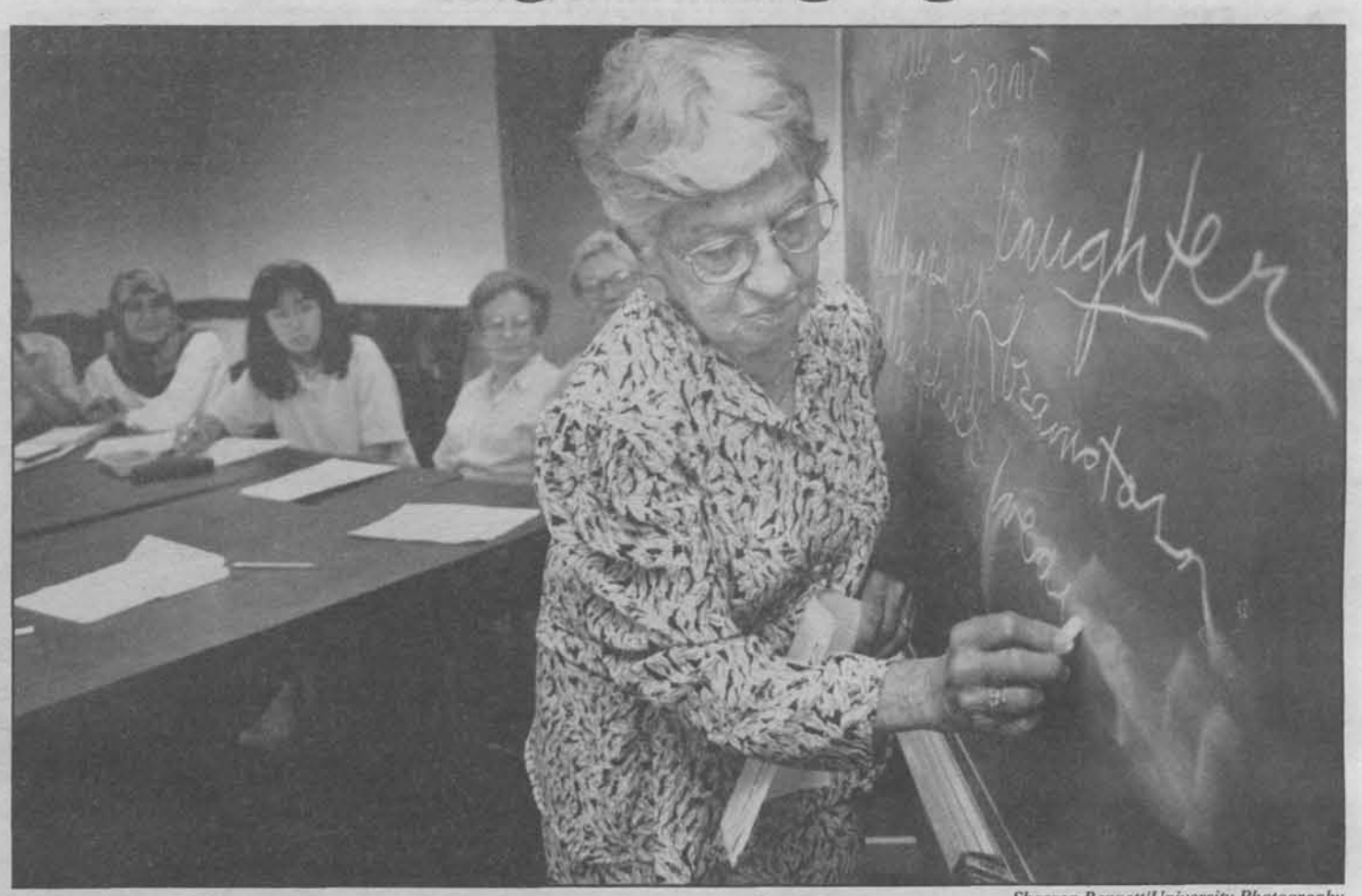
Tanaka, Ostos de Bernal and the five other players in this slightly altered game of Pictionary are summer students in the ESL classes offered by the Cornell Campus Club, an organization of women of the Cornell community. The classes, offered five days a week, are taught by volunteers and have been helping students improve their English-speaking skills for 40 years.

The Campus Club began offering the classes when the club's then-hospitality group, formed to help foreigners adapt to the Cornell community, realized that many of their guests also desired training in English conversation.

"Nearly all of these people have had some English training in their native country but need help with conversational skills," said Joan McMinn, assistant director of the program.

"I have taken English since junior high school but have had almost no chance to speak it," agreed Sheuh-Fang Cheng, who is taking three ESL classes per week this summer. Learning to speak better English would help her not only during her stay in Ithaca, said Cheng, but also in her job as a currency exchange worker in her native Taiwan.

The students come from all over – Cheng's classmates, for instance, include her Taiwanese husband, a Ph.D. candidate conducting cancer research at Cornell; Tanaka, an electrical engineer from Japan; Ostos de Bernal, a mother of two from Colombia; and 17-year-old Samantha Broust from Mexico, who would like to practice law in the United States one day.



Sharron Bennett/University Photography

Volunteer teacher Rachel Ehrlich during an ESL class session in Anabel Taylor Hall.

The volunteer teachers also come from a variety of backgrounds. "Several of our teachers have been teaching for 10-15 years," McMinn said. "But we pick up others who may have been in the Peace Corps, or who have traveled widely and understand the problems of learning a foreign language. Sometimes we get [college] students who are maybe majoring in languages or government, or who are just interested in teaching."

One of the veteran teachers is Rachel Ehrlich, 83, who officially retired "years ago" as an English teacher at the Bronx High School of Science in New York City but has continued to teach ESL classes for the past 10 years.

"I like to teach," Ehrlich said. "I do it because it's what I do best. I've worked at it for a long time."

'Nearly all of these people have had some English training in their native country, but need help with conversational skills.'

– Joan McMinn

Some volunteer teachers are recruited through advertisements placed in the newspaper, but "word-of-mouth is our best advertisement," McMinn said. Volunteers who have found their experience rewarding often will pass that information along to other potential teachers. Because the number of classes offered is limited by the number of volunteers available, McMinn said, "We are always looking for new people."

The Cornell Campus Club registers students for the free ESL classes three times a year – fall, spring and summer – following the regular Cornell calendar. The classes generally are held at Anabel Taylor Hall, the Parish House on Oak Avenue and Hasbrouck Conference Center on North Campus. Students can register for up to three beginning, intermediate or advanced classes a week. Interested students and volunteers can sign up for fall by contacting Ann Marie Dullea, director, at 277-2488 or Joan McMinn at 277-0013. Registration is Sept. 1, 7:30 to 9 p.m. at the One World Room, Anabel Taylor Hall. Classes start Sept. 6.

Plant-rich diet may help reduce hot flashes

By Susan Lang

A diet rich in fruits and vegetables may do even more than reduce the risk of cancer and heart disease: Some research suggests that naturally occurring plant estrogens may help minimize the hot flashes of menopause and reduce the risk of breast cancer, a Cornell nutritionist says.

"Recent research elsewhere has found, for example, that Japanese women who eat traditional, low-fat, high-plant food diets with a staple of tofu (high in phytoestrogens), report fewer hot flashes during menopause. Traditional Japanese women also have significantly lower rates of breast cancer," said Carol Devine, Cornell assistant professor of nutritional sciences.

Plant estrogens, known as phytoestrogens, are in many plant foods from apples and alfalfa sprouts to split peas and spinach. Soybean products and linseed are particularly high in phytoestrogens. Estrogens are the sex hormones in animals and humans that control fertility.

Phytoestrogens may play an important role in preventing breast cancer and hot flashes by competing with human estrogen in the body. Researchers elsewhere have found that women who eat high-plant food diets excrete significantly more estrogen in their urine.

"By competing with human estrogens in binding to the body's estrogen receptors, phytoestrogens may contribute to the excretion of the stronger human estrogens, thereby reducing the overall estrogenic activity in the body," said Devine, who researches how women's roles at different stages of life influence their attitudes about food and their nutrition.

"During menopause, falling levels of estrogen are known to be linked with body temperature regulation, and hot flashes subside when women take replacement estrogens. It is suspected that menopausal symptoms and estrogen levels are related."

Furthermore, studies have shown that Japanese women eating traditional diets have significantly higher levels of estrogen in their urine compared with American and Finnish women, and that Western women who do not eat meat or dairy products also have higher levels of estrogen in their urine than women who do.

"Even short-term increases in foods high in phytoestrogens may have a significant biological impact and may help modify the menopause experience among postmenopausal women because they tend to have low estrogen levels," Devine said, referring to a study in which the diets of 25 postmenopausal women were supplemented with soy flour and linseed for two weeks. Those researchers found that the women showed significantly increased vaginal cell maturation (a measure of estrogen activity).

Human estrogen also has been implicated in playing a role in breast cancer. "Japanese women who eat traditional diets have a lower incidence of and mortality from breast cancer than Western women. Once again, estrogens may be part of the connection," Devine said. "Women with breast cancer and the daughters of women with breast cancer have been found to have higher blood estrogen levels."

Phytoestrogens are much weaker than human or synthetic estrogen. The amount of estrogenic activity in one-third cup of soybean sprouts, for example, is about one-thousandth that of hormone replacement pills that some women take after menopause.

Although other research has recently suggested that the organochlorines, chlorine- and carbon-based chemicals commonly found in pesticides, solvents and vinyls are hormonally active compounds and may act like estrogens in the body, perhaps playing a role in breast cancer, Devine said the known benefits of eating fruits and vegetables far outweigh any possible risks.

Nevertheless, Devine and other nutritionists routinely recommend that fruits and vegetables be washed before being eaten.

Granados named to head society

Robert R. Granados, an entomologist at the Boyce Thompson Institute for Plant Research, has been elected president of the Society for Invertebrate Pathology. He will take office during the society's annual meeting in Montpellier, France, Aug. 28 to Sept. 2.

Granados

Granados is the Charles E. Palm Scientist and director of the Plant Protection Program at BTI and an adjunct professor of entomology at Cornell.

"It's a real honor, of course," Granados said. "This is an organization of scientists from around the world, and this will give me an opportunity to provide leadership in a very important area of biological science."

BTI, Cornell and the U.S. Department of Agriculture will host the next meeting of the society, to be held in July 1995 in Ithaca. There are 20 members of the society in the Ithaca community, including 14 at BTI.

Granados has been at BTI since 1964 and has been director of the Plant Protection Program for 17 years. He was appointed the first Charles E. Palm Distinguished Scientist in 1992.

The 70-year-old Boyce Thompson Institute is the only major private independent not-for-profit research institute in the United States that is focused exclusively on plant research.

Plan will ease traffic jams

University transportation officials have worked cooperatively with local and state officials to create a traffic plan that will minimize congestion when new students arrive on campus for the fall semester on Friday, Aug 19.

The traffic volume will place a strain on roadways and parking on campus and in surrounding communities. Transportation officials are asking for the cooperation of faculty and staff to minimize the impact of this influx of traffic.

Consider the following as you think about transportation to or on campus that day:

• Avoid arranging deliveries of equipment or supplies.

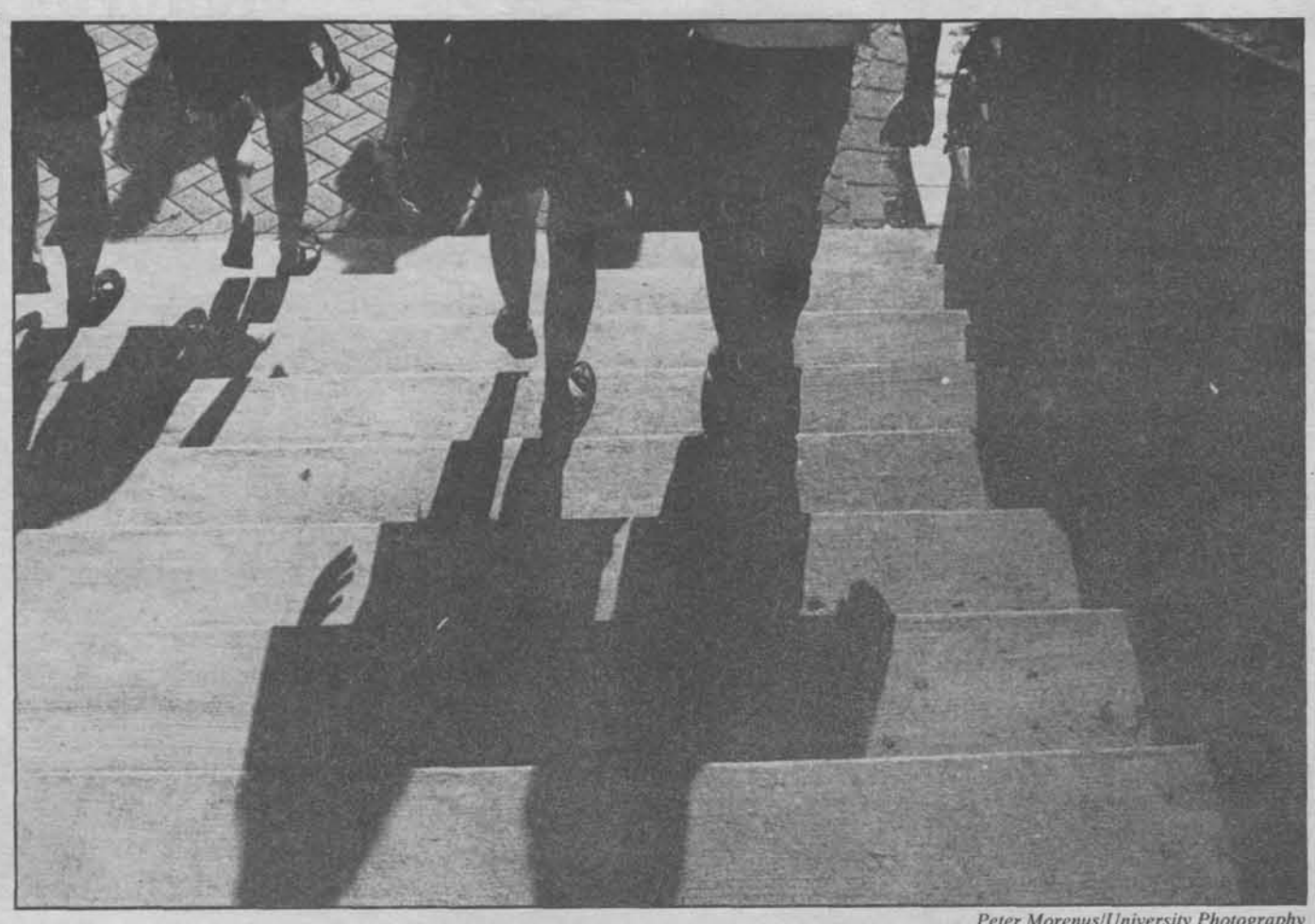
• Utilize public transportation, car pool or park in A lot and take a bus to Central Campus if possible.

• Avoid the West Campus area, particularly Stewart Avenue, University Avenue, Campus Road and West Avenue. West Avenue will be one-way south on this day.

• If staff must come to the West and North Campus areas, please cooperate with traffic controllers and adhere to traffic patterns specifically set up for the day.

Cooperation in traffic planning efforts is essential to minimize the impact on the daily business of campus, on ensuring that fire and life safety can be maintained and in helping ease the anxiety on what will be a stressful day for new students and parents.

Student silhouettes



Peter Morenus/University Photography

Summer College students walk along West Campus on a recent sunny summer evening.

1980s economic reforms in Africa didn't hurt poor, study says

By Susan Lang

The process of major economic reforms, known as structural adjustment programs, launched in sub-Saharan Africa in the 1980s has *not* had a negative impact on the poor, contrary to widespread perceptions, concludes a six-year research project at Cornell.

"Although these programs have not been sufficient to relieve poverty or produce rapid growth, there is no evidence that they have harmed the poor either," said David Sahn, director of the Cornell Food and Nutrition Policy Program, a social science research institute and one of the largest institutes in the world doing economic policy research on Africa, according to its sponsor, the U.S. Agency for International Development (USAID).

"In fact, our evidence shows that the poor have benefited in countries with fully adopted adjustment programs which we believe are necessary preconditions to restoring economic growth and stability in Africa."

The study is the result of collaboration of Cornell staff with dozens of African researchers working in Cameroon, The Gambia, Ghana, Guinea, Malawi, Madagascar, Mozambique, Niger, Tanzania and Zaire. The researchers examined the impact of trade policy reforms and exchange rate devaluations, agriculture and food market reforms and fiscal policy reforms by conducting and analyzing survey data of households, farms and markets, as well as national accounts and government budgets, and thereafter developing appropriate economic models.

The work was of such importance that USAID sponsored conferences at the State Department for 200 officials from the U.S. government and private voluntary organizations in November 1993 and one in Ghana in March to disseminate the findings to multilateral and bilateral donors and to more than 100 African economists and policy makers from two dozen countries.

According to independent evaluators at Tufts University, "The collection and analysis of the data, coupled with sophisticated economic models undertaken by CFNPP, has resulted in the largest body of high quality, quantitative research on African economies produced by any institution in the world."

Sahn, a development economist, said the major focus of the project was to determine how the complex and highly controversial policies of state disengagement and liberalization of markets affected economic and social welfare.

In the face of severe economic and social crises in the mid-1980s, many African nations started the process of structural adjustment, funded largely by the International Monetary Fund, the World Bank and bilateral donors, to establish market-based economies. Many officials believed, however, that this process was inappropriate, ineffective and inequitable and would have deleterious consequences on the poor since such reform initiatives were expected to result in falling wages, higher unemployment, higher prices for staple goods and fewer services.

"Africa remains in crisis. However, without policy reform, the well-being of the poor would be worse," concluded Sahn, editor of the just-published book, *Adjusting to Policy Failure in African Economies* (Cornell University Press, 1994). The reforms, for example, improve incentives to small agricultural producers and eliminate economic policies that disproportionately benefited the elite and urban middle class. Furthermore, many analysts make the erroneous assumption that the reforms should be evaluated on a "before" and "after" basis.

"Instead, where possible and for many questions, the counterfactual – using models to explore growth and distributional outcomes with and without policy change – is the correct approach to examining the impact of economic reforms on poverty," Sahn said.

Many analysts also assume that declining living standards in countries receiving loans from the World Bank and IMF is a failure of policy; instead, the failure to institute reform, due to political environments that prevent elimination of excess state controls, is the most serious impediment to economic recovery in Africa, Sahn pointed out.

The CFNPP conducts research and training on economic development and social policy. Recently, particular emphasis has been on economic and social welfare encountered as nations shift to market economies in Asia, Eastern Europe and the former Soviet Union, as well as in Africa.

Food and nutrition policy program moves to Ithaca

By Susan Lang

The Cornell Food and Nutrition Policy Program (CFNPP), one of the largest centers in the world doing research on economic policy in Africa, according to the U.S. Agency for International Development (USAID), has moved its base of operations from Washington, D.C., to campus.

Directed by development economist David Sahn in the College of Human Ecology at Cornell, CFNPP conducts research and provides technical assistance and training in the area of economic development and the impact of economic and social policy on household welfare.

Although the majority of its work is in African countries, including Cameroon, Ethiopia, The Gambia, Ghana, Guinea, Lesotho, Malawi, Madagascar, Mozambique, Niger, Nigeria, Tanzania and Zaire, CFNPP also has on-going projects in Asia, Eastern Europe and the former Soviet Union.

"Our mission is to do policy-relevant research that governments and donors need to make informed decisions about ways to promote economic development and improve the economic and social welfare of households, such as reducing poverty and hunger and enhancing food security," said Sahn, editor of the just-published book, *Adjusting to Policy Failure in African Economies*, (Cornell University Press, 1994).

For example, the program focuses on issues such as:

• Modeling the impact of macroeconomic and sectoral policy on welfare outcomes;

• Microeconomic analysis of household and labor market behavior;

• The role of the state in increasing the efficiency and equity of factor and product markets;

• The use of information in supporting national- and community-level decision-making designed to reduce poverty and malnutrition;

• The causes, consequences and policy implications of malnutrition. One of CFNPP's major efforts in the past six years, for example, has been a USAID-funded project that assesses the effects of major macroeconomic and agricultural policy reforms launched in Africa in the 1980s on poverty.

'Our mission is to do policy-relevant research that governments and donors need to make informed decisions about ways to promote economic development and improve the economic and social welfare of households . . .'

– David Sahn

"Contrary to widespread perceptions, the process known as structural adjustment in sub-Saharan Africa has not had a negative impact on the poor," said Sahn, associate professor in the Division of Nutritional Sciences at Cornell.

"Although these programs have not been sufficient to relieve poverty or produce rapid growth, there is no evidence that they have harmed the poor either. In fact, we believe they have been necessary preconditions to restoring economic growth and stability, and alleviating poverty in Africa."

According to independent evaluators of the research project at Tufts University, "This combination of collection and analysis of primary data, coupled with conceptualization of the problem in terms of sophisticated models, has resulted in the largest body of high quality, quantitative research on African economies produced by any institution in the world."

With a staff of 10 full-time researchers in Ithaca, along with graduate students, research assistants and numerous collaborators in Africa and around the world, and $1 to $3 million in annual research expenditures over the past five years, CFNPP is involved in numerous research projects.

The senior research staff currently includes Paul Dorosh, David Pelletier, Ken Simler, Fude Wange, Stephen Younger, Peter Glick, Steven Haggblade and Tiefu Shen.

Puffin project offers hope for endangered seabirds

By Rachel F. Preiser

Like Shakespeare's wise fool, the clown-like puffin with its remarkable history may have a survival lesson to teach other seabird species.

That is the hope of Stephen W. Kress, a research associate at the Cornell Laboratory of Ornithology and National Audubon Society biologist, who is now adapting strategies he pioneered in the 20-year puffin restoration project.

The project is designed to help the dark-rumped petrel of the Galapagos Islands, the Laysan albatross of Hawaii and the short-tailed albatross of Japan.

"We're learning to practice active wildlife management. For too long, humans have managed by accident, not by plan," Kress said. "We propose a more predictable approach to wildlife management, taking into consideration the location and range of original populations and what our responsibilities for restoration should be."

Beginning in 1973, Kress' effort to restore puffins to the Gulf of Maine combined two innovative strategies for repopulation: First, he capitalized on the puffin's tendency to return to its birthplace to breed, transplanting young puffin chicks from Newfoundland to Maine to fool them into believing they had been born on Eastern Egg Rock, and to encourage their return there to nest. Second, he used "social attraction" devices, including decoys and recordings of puffin mating noises, to lure puffins to long-abandoned sites to breed.

After 20 years of patient nurturing, the puffin project shows signs of success: The number of nesting puffin pairs at one Gulf of Maine site, Seal Island, has doubled from 1992 to 1993 alone.

While the translocation strategy applies only to seabird species that, like the puffin, do not feed their chicks after leaving their nesting islands, the technique of social attraction can be adapted to almost any colonial seabird species and can sometimes be used to sidestep the translocation phase entirely, Kress said. Seabird colonies have "prospectors," that is, individuals of the colony that tend to pioneer new colonies and serve to attract others of their kind to good nesting sites.

Strategically placed decoys and recordings of adult birds and chicks can attract prospectors of that species, convincing them that a designated site already is occupied by their kind and, therefore, is suitable for breeding. Scientists are now attempting to apply social attraction techniques for the relocation and restoration of endangered seabird species at several locations around the world. Recordings are prepared at the Cornell Laboratory of Ornithology's Library of Natural Sounds, the world's largest collection of sounds by birds and other animals.

Sharron Bennett/University Photography

Stephen Kress holds a baby albatross decoy used to lure endangered birds to nests.

Kress currently is working with biologist Richard H. Podolsky to establish a safe haven for the Laysan albatross on Hawaii's Kaohikaipu Island, using decoy and recording techniques. The project involves luring these 3-foot-tall birds with 7-foot wingspans from hazardous nesting places on Oahu at Dillingham Air Field and Kaneohe Marine Corps Air Station, where they are endangering their own as well as human safety by competing with airplanes for occupation of prime take-off territory.

Similar techniques also are being used by Japanese ornithologists to help the endangered short-tailed albatross of Japan. Only 100 pairs of short-tailed albatross remain, nesting on the slopes of an active volcano on Japan's Torishima Island. Decoys and sound recordings may encourage some birds to relocate to a new nesting site that is less susceptible to destruction, in this case by natural disaster rather than human activity.

'We propose a more predictable approach to wildlife management, taking into consideration the location and range of original populations and what our responsibilities for restoration should be.'

– Stephen Kress

The influence of humans on the environment is responsible in both direct and indirect ways for the endangered status of many seabird species, Kress observes. Besides hunting many species out of existence, humans have introduced or facilitated the growth of populations of predators and competitors that can wipe out entire seabird colonies. Kress and Podolsky also are working on a project to help the dark-rumped petrel of the Galapagos Islands from predatory rats, pigs and dogs brought there by humans.

The restoration and relocation projects are supported by grants, foundations, individual contributions and even by classes of schoolchildren.

Despite the possibility of salvation Kress' work seems to hold for many endangered species, critics have objected to this "wildlife management," believing that it represents too-active human intervention in the course of nature. Kress responds to this criticism by insisting that humans have an unremitting impact on wildlife.

"Developing protective strategies to compensate for the depleting effects of our constant intervention in the environment is essential to preserving the biodiversity of the planet," Kress said. "If we have the ability to do something for wildlife by restoring species to their historic range, we have a responsibility to seize the opportunity."

Kress sees wildlife management as a blending of science and art: "We can't always set up controlled experiments. We must adapt what we do to what we see and know about wildlife."

Cornell scientists use an insect's own chemistry for pest control

By William Steele

The internal chemistry an insect uses to attract mates soon may be turned against it by Cornell researchers. The result could be a biological weapon against a worm that plagues corn, cotton and tomato growers.

A gene coding for a hormone that triggers the release of sex attractants in the moth *Helicoverpa zea* has been identified and cloned by Peter W.K. Ma, a postdoctoral research associate in entomology at Cornell's Agricultural Experiment Station in Geneva.

Ma worked with Douglas C. Knipple and Wendell L. Roelofs, Cornell professors of entomology at Geneva, to identify and clone the gene, paving the way for a biological control. They reported their work in the July 5, 1994, issue of the *Proceedings of the National Academy of Sciences*.

Roelofs and H. Alan Wood, a researcher at the Boyce Thompson Institute for Plant Research located at Cornell's Ithaca campus, plan to insert the gene into a virus that attacks the larvae of the moth.

"People have been interested in using viruses as alternatives to chemical pesticides, but many of these viruses are pretty slow," Wood explained. "They may take five to 15 days to kill the larva, and by that time the worm has done too much damage. We hope to genetically improve them to make them better alternatives."

'[Viruses] may take five to 15 days to kill the larva, and by that time the worm has done too much damage. We hope to genetically improve them to make them better alternatives.'

– H. Alan Wood

The larva of *H. zea* is commonly known as the corn earworm, cotton bollworm or tomato fruitworm, depending on the plant where it is found. The worm is susceptible to insecticides for only two or three days of its life cycle, so growers must spray frequently to prevent unacceptable damage to crops. A biological alternative to chemical pesticides could reduce costs as well as protect the environment. Wood will add the insect gene to the DNA of a virus called Autographa, then test the modified virus on insect larvae in the laboratory. Autographa belongs to a class of viruses known as baculoviruses, which infect a wide range of insects.

A virus works by inserting its own genes into the cell of a host, forcing the cell to manufacture more viruses. The researchers hope that this modified virus will cause the insect larva to produce adult hormones at the wrong time in its life cycle. If successful, it could stop the larva's growth or disrupt its feeding behavior. The research was funded by the Cornell Center for Advanced Technology in Biotechnology, which is sponsored by the New York State Science and Technology Foundation and the National Science Foundation.

The gene Ma has identified is unusual in that it codes for a long chain of amino acids, which is then cut into shorter pieces to create five different proteins, all possibly related to reproduction. One of these is a hormone called PBAN (Pheromone Biosynthesis-Activating Neuropeptide), which triggers a gland to produce a sex pheromone – chemical signals released into the air, some of which are used to attract the opposite sex. The gene codes for a chain of 194 amino acids. Thirty-three of these form PBAN.

Roelofs and Wood admit that they don't know exactly what effect the modified viruses will have on insect larvae. "We may get other ideas as we dig further into this," Roelofs said.

CALENDAR

August 18 through August 25

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

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

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

dance

Cornell International Folkdancers

All events are open to the Cornell community and general public and are free unless otherwise noted. Beginners are welcome; partners are not necessary. For information, call 387-6547.

• Aug. 21: 7:30 p.m., dance instruction, dances from southern Africa; 8:30 p.m., open dancing and requests; Atrium, Veterinary Research Tower.

exhibits

Johnson Art Museum

The Herbert F. Johnson Museum of Art, on the corner of University and Central avenues, is open Tuesday through Sunday from 10 a.m. to 5 p.m. and Wednesdays to 8 p.m. Admission is free. Telephone: 255-6464.

"Of a Feather: Audubon and Fuertes," four original volumes of John James Audubon's *Birds of America* and works by Louis Agassiz Fuertes, runs through Aug. 21.

"Earth Tones: Landscape Photographs of the 19th and 20th Centuries," runs through Aug. 21.

Martha Van Rensselaer Hall

"Cross-Dressing: Exchange of Clothing Styles Across Cultures," through Aug. 22, 317 MVR Hall. The exhibit is open daily from 9 a.m. to 4:30 p.m. To enter, request a key from 208 MVR Hall.

films

Films listed are sponsored by Cornell Cinema unless otherwise noted and are open to the public. All films are $4.50 ($4 for students), except for Tuesday night Cinema Off-Center ($2) and Sunday matinees ($3.50). Films are held in Willard Straight Theatre except where noted.

Sunday, 8/21

"The Searchers" (1956), directed by John Ford, with John Wayne, Jeffrey Hunter and Natalie Wood, 8 p.m.

Monday, 8/22

"The Famine Within" (1990), directed by Katherine Gilday, with guest speaker Joan Brumberg, 7 p.m.

"The Searchers," 10 p.m.

Tuesday, 8/23

"Susceptible to Kindness: Miss Evers' Boys and the Tuskegee Syphilis Study" (1993), with guest speakers David Feldshuh and Dan Booth of Media Services, 7 p.m.

"Eight 1/2" (1963), directed by Federico Fellini, with Marcello Mastroianni and Claudia Cardinale, 9:45 p.m.

Wednesday, 8/24

"Imagined Communities" (1991), directed by Maggie Millman, with guest speaker Ben Anderson, 7 p.m.

"Eight 1/2," 9:45 p.m.

Thursday, 8/25

Student Film Show, with guest speaker Marilyn Rivchin, 7 p.m.

"Four Weddings and a Funeral" (1994), directed by Mike Newel, with Hugh Grant and Andie MacDowell, 10 p.m.

graduate bulletin

• **Academic orientation:** Dean of the Graduate School Walter Cohen welcomes new students on Wednesday, Aug. 24, 3 p.m., Alumni Auditorium, Kennedy Hall. Reception follows in Big Red Barn.

• **Graduate student orientation:** Programs begin Friday, Aug. 19; brochures in field offices, Big Red Barn Graduate and Professional Center, Graduate School, and Information and Referral in Day Hall.

• **Degree deadline:** Friday, Aug. 19, is the deadline for completing all requirements for an August degree, including submitting the thesis/dissertation to the Graduate School.

• **Study abroad:** Applications for Fulbright grants for study abroad are available for the 1995-96 academic year; contact R. Brashear, director of Graduate Admissions, Sage Graduate Center, 255-3912. Applicants must be U.S. citizens; completed applications are due mid-September.

• **Fall registration:** Registration for graduate students is in Alberding Field House, 9 a.m. to 5 p.m. New students only on Saturday, Aug. 20; new and continuing students on Monday and Tuesday, Aug. 22 and 23.

• **Course enrollment:** Course enrollment forms will be available in graduate field offices and at Sage Graduate Center. Return completed form in person to the Graduate School by Friday, Sept. 16.

• **English test:** The English Placement Test will be held in Hollis Cornell Auditorium, Goldwin Smith Hall, on Monday, Aug. 22, at 9:45 a.m. Entering international students who satisfied the language requirement with a TOEFL score below 600 must take this examination.

• **Faculty meeting:** Friday, Sept. 2, 4 p.m., General Committee Room, Sage Graduate Center. This meeting is solely for the purpose of voting on August degrees.

• **TA workshops:** Saturday, Sept. 10; registration forms at graduate field offices or Office of Instructional Support, 14 East Ave., Sage Hall, phone 255-3493. There is no charge to students.

religion

Sage Chapel

No service scheduled.

African-American

Sundays, 5:30 p.m., Robert Purcell Union.

Baha'i Faith

Fridays, 7:30 p.m., firesides with speakers, open discussion and refreshments. Sunday morning dawn prayers and breakfast, 7 a.m.. For details, call 272-5320.

Catholic

Weekend Masses: Saturday, 5 p.m.; Sunday, 10 a.m., noon and 5 p.m., Anabel Taylor Auditorium. Daily Masses at 12:20 p.m. in Anabel Taylor Chapel. Sacrament of Reconciliation, Saturday, 3:30 p.m., G-22 Anabel Taylor Hall.

Christian Science

Testimony and discussion meeting every Thursday at 7 p.m., Founders Room, Anabel Taylor Hall.

Episcopal (Anglican)

Sundays, worship and Eucharist, 9:30 a.m., Anabel Taylor Chapel.

Friends (Quakers)

Sundays, 10:30 a.m., meeting for worship at the Hector Meeting House on Perry City Road.

Jewish

Morning Minyan at Young Israel, 106 West Ave., call 272-5810.

Reform: Fridays 6 p.m., chapel, Anabel Taylor Hall; Conservative/Egalitarian: Fridays, 6 p.m., Founders Room, and Saturdays 9:30 a.m., Founders Room, Anabel Taylor Hall; Orthodox: Friday, call 272-5810 for time, and Saturday, 9:15 a.m., Edwards Room, Anabel Taylor Hall.

Korean Church

Sundays, 1 p.m., chapel, Anabel Taylor Hall.

Muslim

Friday Juma' prayer, 1:15 p.m., One World Room, Anabel Taylor Hall. Daily Zuhr, Asr, Maghreb and Isha' prayers at 218 Anabel Taylor Hall.

Protestant Cooperative Ministry

Sundays, 11 a.m., chapel, Anabel Taylor Hall.

Sri Satya Sai Baba

Sundays, 10:30 a.m., 319 N. Tioga St. For details call 273-4261 or 533-7172.

Zen Buddhist

Thursdays, 5 p.m., chapel, Anabel Taylor Hall.

seminars

African Development

"First Multiparty Presidential Elections in Malawi," Anastazia Msosa, chairperson of the Malawi First Electoral Commission and a judge on the High Court of Malawi, Aug. 22, 2:30 p.m., 115 Tjaden Hall.

Toxicology

"Expression of an Activated raf Oncogene in HL-60 Human Leukemia Cell Permits Accelerated Differentiation in Response to Inducing Agents," Megan Williams, graduate student, Aug. 18, 2 p.m., 828 Veterinary Research Tower.

miscellany

Alcoholics Anonymous

Meetings are open to the public and will be held Monday through Friday at 12:15 p.m. and Saturday evenings 7 p.m. in Anabel Taylor Hall. For more information call 273-1541.

Astronomical Observing

The Cornell Astronomical Society hosts an open house every clear Friday evening at Fuertes Observatory, located on north campus next to Helen Newman Gymnasium. Enjoy stunning views of the planets, moon and other heavenly bodies through an historic 12-inch diameter brass refracting telescope. Visiting hours are held from 8 p.m. to midnight.

Computer Fair

The 1994 "CIT Back-to-School Fair," sponsored by Sales and Service, will be held in Lynah Rink Friday, Aug. 19, through Tuesday, Aug. 23, excluding Sunday. Open from 10 a.m. to 5 p.m., the fair gives CIT a chance to welcome students to Cornell and is an opportunity to find out what's new in computer hardware and software. Vendor and CIT representatives will be available for consulting questions; faculty, staff and students may purchase at the fair.

Cornell programs try to make learning about environment 'ESEY'

By Roger Segelken

Preschoolers probing the mysteries of food-waste composting have it "ESEY." So do minority college students who spend summers with university researchers, then pass on their environmental lessons to low-income middle school students.

Solving environmental problems is "ESEY" for museum-goers with access to aerial photographs and remote-sensing technologies. And secondary school teachers who give up their summer vacations to analyze local watersheds find that developing new skills is not so hard.

These learners and thousands of others are participating in educational programs that try to convey the scientific knowledge and discovery processes of a major research university to people of all ages who need to know how the environment works. So many environment-related programs are being developed that organizers at the Cornell Center for the Environment needed an overall title. They call it Environmental Sciences for Educators and Youth, or ESEY.

"Cornell has tremendous human and informational resources in such scientific fields as waste management, water resources, environmental toxicology and natural resources. We owe it to the public to share that information and the excitement that comes with hands-on learning about the environment," said Marianne Krasny, program leader and Cornell associate professor of natural resources.

'Our goal at ESEY is to help young people and their teachers and leaders develop the ability to critically analyze environmental and resource-management issues.'

– Marianne Krasny

ESEY includes programs for all levels of environmental understanding – from projects that emphasize discovery, observation and stewardship by elementary and middle school youth to sophisticated research programs for high school teachers and students at the high school and college level. An emphasis is placed on meeting the needs of "underserved audiences," including ethnic minorities, rural students and students with disabilities. Audiences for the specially developed curricula, educator training sessions and educational activities for youth include educators in science museums, camps and nature centers; community and volunteer leaders; public school teachers; and young people.

"The emphasis on content and process is what distinguishes the ESEY program from many other environmental education programs," said Nancy Trautmann, program coordinator at the Cornell Center for the Environment, one of several collaborating units at Cornell. ESEY also draws on the resources of the departments of Natural Resources and of Education, Waster Resources Institute, Waste Management Institute and the Cornell Laboratory for Environmental Applications of Remote Sensing.

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