

CORNELL Chronicle

Volume 27 Number 37 June 13, 1996

SINGING HER PRAISES

Beverly Sills delights a Reunion Weekend audience while giving the annual Olin Lecture in Bailey Hall.

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DISCUSSING BIOENGINEERING

Faculty and administrators talk about how various disciplines can cooperate in doing basic research in the field.

9

Super-resistant rice plant technology will benefit developing countries

By Roger Segelken

Biologists at Cornell and Washington universities have genetically engineered and successfully field tested rice plants that resist some of the most destructive insects as well as salt and drought damage.

Technology for the transgenic rice plants, which incorporates genes from potato plants to resist insect damage and genes from bar-

ley plants to make them salt- and drought-tolerant, will be given to developing countries under provisions of a Rockefeller Foundation grant. Rights to the technology, which potentially can reduce crop losses by billions of dollars each year, will be sold in developed countries such as the United States and Japan.

Development of the insect-resistant rice, which was reported in the April 1996 issue

of the journal *Nature Biotechnology*, marks the first time that useful genes were successfully transferred from a dicotyledonous plant, the potato, to rice, a monocotyledonous plant.

The potato genes cause rice plants to produce a protein that interferes with insects' digestive process whenever the plant is wounded by insects. Thus, insects such as the pink stem borer eat less and grow less quickly, and plant damage is reduced to

tolerable levels. A barley gene enables rice plants to produce a protein that makes them salt- and drought-resistant so that they grow in saline conditions and recover quickly from dry conditions.

"These are capabilities that wild plants develop naturally over years of evolution, but we can't afford to wait for domestic rice varieties to evolve resistance to insect pests

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Charles Harrington/University Photography

Alumni enjoy the Allan Hosie Treman '21 Memorial Concert at the F.R. Newman Arboretum in Cornell Plantations, Saturday afternoon of Reunion Weekend.

CU Reunion '96: They came, they saw and—they had fun

By Jill Goetz

Stephanie Mitchell '78, J.D. '80, left Cornell Reunion '96 last Sunday with more than memories: She left with a husband.

Mitchell, who has been working in Hong Kong for a business software trade association, married Johannes Göbel in the A.D. White House on the Wednesday before Reunion and stayed the weekend to show her new husband her old haunts. For Mitchell, who majored in Chinese language and history before obtaining her law degree from Cornell, those haunts included the Holland International Living Center, which celebrated its 25th anniversary at Reunion.

Others among the more than 5,500 alumni and guests who converged on campus for Reunion '96 came for different reasons. Hailing from such nations as Korea, India, New Zealand and Zimbabwe, they attended talks by Beverly Sills, opera star and chair of the board of the Lincoln Center for the Performing Arts, and Marlin Fitzwater, former White House press secretary under Presidents Reagan and Bush; they met Cornell's new president, Hunter Rawlings, and visited its new Veterinary Medical Center; they ascended McGraw Tower to play the Cornell Chimes and competed in athletic events on land and water; and they attended classes and forums led by prominent Cornell scholars.

Alumni broke several records at Reunion '96: 676 from the class of '91 broke attendance records for the fifth-year class. So did the 478 returning alumni from the class of '86, the 222 who came back from the class of '81 and the 282 from the class of '76. The class of '56 donated \$10.7 million to the university, breaking class giving records nationwide, according to the Office of

Alumni Affairs.

And if she didn't break any records, Agda Osborn '20 came very close, by attending a Cornell Reunion just three months short of her 99th birthday.

Agda Osborn can be proud for another reason—two of her great-grandsons, Rob (class of 1998) and Andy (class of 2000), are currently enrolled at Cornell.

For retired Navy engineer Rocco "Victor" Vittucci, '36, M.M.E. '40, Reunion '96 was a chance to revisit Lincoln Hall's Gamelan room. On a sweltering Saturday afternoon, he and seven other alumni, most

Cornell alumni broke several records at Reunion '96....The class of '56 donated \$10.7 million to the university, breaking class giving records nationwide.

of them 40 years younger, sat cross-legged on the floor, using *tabuh*s to strike the right notes on Javanese instruments in an impromptu class led by Martin Hatch, associate professor of music and Asian studies.

"I've played nearly all the instruments in this room," said Reunion regular Vittucci, sweeping his arm over a sea of gongs and bells. "I played better at the last Reunion."

For Alan Cohen '81, B.S. Ag. '86, this year's Reunion activities included planting marigolds and nasturtiums at the Cornell Plantations, along with other alumni and students in the first annual alumni-student

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Rawlings lists accomplishments; looks to the future

By Jacquie Powers

President Hunter Rawlings, in his first Reunion Weekend State of the University Address on June 8, praised Cornell's alumni for their "unflagging energy and intense devotion" to their alma mater.

Rawlings, in a packed and humid Bailey Hall, briefed alumni on the issues the university has faced and the accomplishments that have been made during his first year as its president. He ticked off a list of accomplishments, including:

- A sixth-place overall ranking for Cornell's Ph.D. programs by the National Research Council, which Rawlings said "is a real hallmark of the high quality of our faculty."
- A 2 percent increase, to 20,640, for an

all-time high in applications.

- A 5 percent increase in applications from underrepresented minorities.

- The academic achievements of students, including one Rhodes Scholar, three Mellon Foundation Fellows, one Raoul Wallenberg Scholar, one Luce Scholar, one Rotary Scholar and three Goldwater Scholars.

- Men's and women's Ivy League ice hockey championship titles. He added that he and his wife, Elizabeth, attended their first hockey game this year against Dartmouth, "And we enjoyed it thoroughly. . . . Across the board Cornell sports are improving and we are pleased with that."

- The "remarkably successfully Capital Campaign," which raised \$1.5 billion. He noted that those funds produced a 27 percent increase in Cornell's endowment; a 99

percent increase in endowment per student; a 91 percent increase in the number of faculty positions endowed; and more than \$200 million in student financial aid.

"We could be a good university without those funds, but we could not possibly be a great university without those funds," Rawlings told cheering alumni. And, he added, that success was achieved with the help of 2,300 volunteers and 96,000 donors.

He noted that the Capital Campaign's success was even more important because of the declining public commitment, both state and federal, to higher education. In an affirmation of the university's unique needs-blind admissions policy, he said that despite the climate of declining government financial support, Cornell must "maintain the

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Frank DiMeo/University Photography

Hunter Rawlings acknowledges applause during his address Saturday.

Rawlings *continued from page 1*

vision that any student can come here to study a wide range of subjects regardless of their financial circumstances... and we must keep tuition increases to a reasonable level."

Rawlings said Cornell is responding to these financial pressures in several ways:

- By creating closer coordination among the colleges and gaining synergy through faculty collaboration.

- By improving undergraduate education, including "rethinking the undergraduate curriculum, especially during the freshman year." The focus, he said, must be on drawing freshmen quickly and fully into the academic and intellectual life of the university.

- By taking a hard look at the university's residential housing policy to ensure that freshmen participate broadly in the full intellectual life of the community and interact with faculty informally, not just in the classroom.

- With a new academic review policy that calls for peers to review academic programs every seven years.

- By initiating appointments and tenure review universitywide at the provost level, "to ensure that common intellectual and academic standards are maintained."

- By establishing Project 2000, which will revamp the university's administrative systems to make Cornell "a best-managed university and help us deal with the cost side of the equation."

Rawlings noted that Cornell's resources, including its libraries, its research laboratories and its talented faculty, are so much broader than at other, smaller institutions.

"The critical thing for us is to make certain that talent reaches our students. I do not buy the myth that first-rate research universities cannot do justice to undergraduate education. . . . I am very encouraged after this first year that most of our students do take advantage of the intellectual and ethical growth and maturity that Cornell offers, and that is the hallmark of a great university."

Chronicle off campus

The *Cornell Chronicle* is now available at many locations off campus, in the Ithaca community. Copies of the weekly paper are available at: Mayers, 318 E. State St.; Tops Friendly Markets, 614 S. Meadow St.; Tompkins County Chamber of Commerce, 904 E. Shore Dr.; Ithaca City Hall, 108 E. Green St.; Ithaca Town Hall, 126 E. Seneca St.; Sheraton Inn and Conference Center, 1 Sheraton Drive; Ramada Inn-Ithaca-Airport, 2310 N. Triphammer; Best Western University Inn, East Hill Plaza; Holiday Inn, 222 S. Cayuga St.; Howard Johnson, 2300 N. Triphammer Road; Econo Lodge, 2303 N. Triphammer Road; and Collegetown Motor Lodge, 312 College Ave.

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Canine escort



Adriana Rovers/University Photography

At the Friday, June 7, dedication of the new Veterinary Medical Center on campus, Guiding Eyes for the Blind trainer Nancy Trewin and puppy Raisin helped lead participants to the stage. See more on the dedication ceremony on page 8.

BRIEFS

■ **Stolen plants sought:** Cornell Plantations is asking help from the public in locating plants that were stolen from the specialty gardens. Missing are the following plants, which, although not necessarily rare, are uncommon to this area: Polygonum amplexicaule "Firetail," Bergenia "Evening Glow," Brunnera macrophylla, Heuchera "Purple Palace" and "Chocolate Ruffles," and Hosta "Golden Tiara." Information on the whereabouts of the plants should be reported to Cornell Police at 255-1111. "Thefts such as these not only detract from the beauty and educational experience, but they short-change our friends and supporters," said Harold Martin, facilities manager for Cornell Plantations.

■ **Business Services show:** The Cornell Business Services Product Show will be Wednesday, June 19, from 10 a.m. to 3 p.m. Formerly called the General Stores Product Show, this year is the first time the event is being held in Lynah Rink. More than 20 vendors, whose office products can be found in the white 1996 Office Supplies Catalog, will be on hand to introduce their latest products. Their products are available for purchase through the Cornell Distribution Center, formerly called the General Stores. There will be various vending booths, including Stevens Office Interiors, Haworth office furniture, CED Baldwin Hall, Empire Airgas, and Vasco Brands, Inc. Staff from six Cornell Business Services will share information about the wide range of services and products they provide. In addition, there will be booths representing the University Print Shop/Electronic Composition Services, the Cornell Campus Store, Quick Copy+, The Technology Connection, the Cornell Distribution Center and the Cornell Travel Office. There will be giveaways, as well as free product samples, food and refreshments. There also will be free prize drawings for a color TV, VCR, gas grill and other prizes. For more details call John Manheim at 255-3994, send e-mail to <jhm2@cornell.edu>, or contact the CBS Website at <<http://www.cbs.cornell.edu>> and click on "Upcoming Events."

■ **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 commitment is for one two-hour class per week, plus preparation. The five-week Summer Session runs from July 1-Aug. 2. For more information call Ann Marie Dullea at 277-2488 or Joan McMinn at 277-0013.

■ **Cornell Summer Day Camp:** The University Summer Day Camp, held at Risley Hall on campus, is making a limited number of spaces available to children from the surrounding communities. Although the camp normally is open only to children of Cornell employees, all interested parents can now register for any one or more of the two-week sessions that begin June 24. The day camp is for children entering the first through eighth grades this fall. It is held Monday through Friday from 8:30 a.m. to 4:30 p.m.; additional supervision is available from 7:30 to 8:30 a.m. and 4:30 to 5:30 p.m. Activities take place throughout the university's campus, which contains a wide diversity of natural and man-made areas. To learn a range of topics, campers participate in hands-on activities and take field trips to various campus facilities and academic departments. Campers also swim twice a week at Cass Park in Ithaca. The camp is staffed by 22 experienced counselors, many of whom are certified school teachers. The camp just expanded its program by adding a science and nature specialist, as well as a music, art and drama specialist to the staff. University Summer Day Camp fees are based on family income. For more information, call the camp at 254-4386, send e-mail to <usdc@cornell.edu>, or write USDC, 130 Day Hall, Cornell University, Ithaca, NY 14853.

■ **Fireworks show:** Donations and VIP reservations are available for the 1996 community fireworks show in Ithaca, Wednesday, July 3. The aerial display will be shot from Ithaca College's South Hill campus

shortly after 9:30 p.m. Fran Benedict, general chairman of the volunteer fireworks committee, says donations for the 49th annual fireworks show can be made at any branch of the Tompkins County Trust Co. More VIP spaces will be provided this year, Benedict said. VIP treatment includes reserved parking, pre-fireworks entertainment, food and beverages and special seating for the aerial display. A donation of \$125 or more will cover VIP parking, food and entertainment for four people. Extra tickets are \$25 each for adults and \$10 each for children ages 3 to 12. VIP reservations are being taken through June 17. Requests can be sent to Benedict, care of the Tompkins County Trust Co. on the Ithaca Commons.

■ **Book awards:** Books published by Cornell University Press have won the following awards during the past several months:

- *The Sacred Fire of Liberty: James Madison and the Founding of the Federal Republic* by Lance Banning was named one of the three nominated finalists for the 1996 Pulitzer Prize in History.

- The American Society for Eighteenth-Century Studies gave the 1995-1996 Louis Gottschalk Prize to *Disorderly Women: Sexual Politics and Evangelicalism in Revolutionary New England* by Susan Juster.

- *Manufacturing Inequality: Gender Division in the French and British Metalworking Industries* by Laura Lee Downs won the 1996 Pinkney Prize from the Society for French Historical Studies.

- The 1996 John Whitney Hall Book Prize, sponsored by the Northeast Asia Council of the Association for Asian Studies, was awarded to "*Rich Nation, Strong Army: National Security and the Technological Transformation of Japan*" by Richard J. Samuels.

- Mayfair Mei-hui Yang's book *Gifts, Favors, and Banquets: The Art of Social Relationships in China* received an Honorable Mention for the 1995 Victor Turner Prize in Ethnographic Writing, awarded by the Society for Humanistic Anthropology.

President Rawlings announces the appointments of interim deans

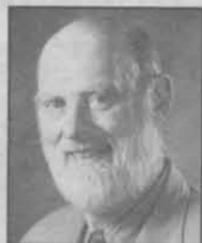
By Jacquie Powers

President Hunter Rawlings announced the appointment of three interim deans on June 5, filling key positions in the Cornell University Medical College, the S.C. Johnson Graduate School of Management and the College of Art, Architecture and Planning.

Dr. Carl F. Nathan, the Stanton Griffis Distinguished Professor of Medicine and senior associate dean for research at the medical college, will replace Dr. Robert Michels as dean of the medical college, effective July 1. Michels announced in December that he was stepping down from the post at the end of the spring semester.

Thomas R. Dyckman, the Ann Whitney Olin Professor of Accounting and Quantitative Analysis and associate dean for academic affairs at the Johnson School, has been named acting dean effective June 10. He replaces Alan G. Merten, who in March was named president of George Mason University effective July 1.

Stanley Bowman, associate dean of the College of Art, Architecture and Planning, was named acting dean effective July 1. He



Bowman



Dyckman



Nathan

replaces William G. McMinn, who will return to the faculty.

"The depth of high-quality leadership in the ranks of Cornell's distinguished faculty is reflected in the excellence of the interim deans we are announcing today," Rawlings said. "They will give strong direction to their respective colleges as we move forward to conclude the existing searches in the medical college and the College of Art, Architecture and Planning and as we initiate the search for the next dean of the Samuel C. Johnson Graduate School of Management."

Nathan received his bachelor of arts degree *summa cum laude* from Harvard College in 1967 and graduated *magna cum*

laude from Harvard Medical School in 1972. He completed his residency at Massachusetts General Hospital in 1974.

He was a clinical associate in the immunology branch of the National Cancer Institute, 1974-76; Fellow in Medical Oncology, Yale-New Haven Hospital, 1976-77; assistant professor, Laboratory of Cellular Physiology and Immunology, The Rockefeller University, 1977-83; associate professor, The Rockefeller University, 1983-85; adjunct professor, Cornell University Medical College, 1985-86; and visiting physician, The Rockefeller University Hospital, 1986-89. He currently is attending physician, The New York Hospital and adjunct professor, The Rockefeller University. He was named senior associate dean for research in 1995.

Dyckman received his bachelor of arts degree with distinction from the University of Michigan in 1954; his M.B.A. with high

distinction from Michigan in 1955; and his Ph.D. from Michigan in 1961.

He was an assistant professor at the University of California at Berkeley from 1961 to 1964 and joined Cornell as an associate professor in 1964. He was named a full professor in 1968, the Ann Whitney Olin Professor of Accounting and Quantitative Analysis in 1977 and associate dean for academic affairs in 1983. He also served as acting dean from October 1994 through April 1995.

Bowman received his bachelor of arts degree from the University of California at Berkeley in 1959 and his B. Architecture degree from Berkeley in 1964.

He worked as an architect in San Francisco and Albuquerque, N.M., from 1966 to 1973 before coming to Cornell in 1973 as an assistant professor. He was named associate professor in 1979; served as chairman of the art department from 1980-85; was promoted to full professor in 1987; served as acting dean of the College of Art, Architecture and Planning in spring 1992; and, in 1992, was named associate dean.

Nationwide searches are under way to fill the deanships.

Martin named associate dean of Arts College

By Jill Goetz

Biddy Martin, associate professor and chair of the Department of German Studies, has been appointed associate dean of the



Martin

College of Arts and Sciences, effective July 1. She will continue to teach and conduct research in German Studies and in Women's Studies. German Studies Professor Arthur Groos will succeed Martin as interim chair of

that department. Martin was elected to the post by Philip E. Lewis, who begins his own term as Dean of the College on July 1, after serving as acting dean for the past year.

"Biddy Martin will bring a combination of youthful vigor, remarkable scholarly achievement and ample administrative experience into the office of the dean," Lewis said.

Martin received a Ph.D. in German literature from the University of Wisconsin-Madison in 1985, a master's in German literature from Middlebury College in 1974 and a bachelor's in English literature from the College of William and Mary in 1973.

Recognizing years of service



Staff members with 40 years of service pose at the president's table during the annual Service Recognition Dinner, June 4, in the Memorial Room of Willard Straight Hall. The honorees (noted with asterisks) and their guests are, seated from left: Franklin Henry*; Janet Henry; President Hunter Rawlings; Elizabeth Rawlings; Barlow Ware*; and Debora Powers. Standing, from left, are: Beverly Dunham; Darwin Dunham*; and Marie Powers*.

Adriana Rovers/University Photography

State gives ITTC bus operations a positive review

By Ailie Silbert '96

New York State's Public Transportation Safety Board (PTSB) recently applauded the bus-safety procedures of the Ithaca Tompkins Transit Center (ITTC) and Cornell's Transportation and Mail Services department, which plays a major role in the operation of buses out of ITTC.

"The real credit goes to the mechanics and drivers," said Bill Stebbins, associate director of Transportation and Mail Services.

Providing what the PTSB called a "model" operation, 60 buses run out of the transit facility and collectively transport some 2.2 million local passengers a year. These buses are maintained by seven mechanics, four bus handlers and a supervisor, all Cornell employees.

In addition, most of the facility's estimated 90 drivers are Cornell employees, with the exception of about 20 hired by the City of Ithaca; many of them also do part-time work for Cornell, Stebbins said.

As part of a routine review, PTSB inspectors came to Ithaca from May 20 to 22 to look at three different areas of the facility's overall routine, said Nancy Oltz of Ithaca Transit, which also operates out of the transit center. To start, the PTSB verified that the ITTC bus drivers' pre-route safety checks were consistent with its written safety plans submitted biannually to the state. In addition, the PTSB checked the facility's paperwork, documenting bus repairs and computer logs of the preventative maintenance programs.

Stebbins said several aspects of the facility's safety standards, bus maintenance and employee conduct were praised by the PTSB inspectors during an exit interview conducted with Stebbins, Marc Whitney, the operations manager for CU Transit, and Oltz.

There also were some useful suggestions given by the PTSB during the interview that the facility plans to implement, Stebbins said.

The state inspectors were pleased with

the buses' cleanliness and overall good condition, Stebbins said. The bus drivers are responsible for the daily pre-route and post-route inspections and the bus handlers take care of the cleaning, he pointed out.

Routine attention by the bus drivers and mechanics has resulted in a smooth ride, even from the transit center's three oldest buses, purchased in 1983. These buses, which stand out from the other buses around town because they are mostly white, were just given a complete maintenance overhaul, Oltz said. The mechanics did such a good job, Oltz claimed she has received several calls from passengers asking if they were new.

As of July, the system of CU Transit, Ithaca Transit and Tomtran buses operating out of the transit center will be referred to as TCAT (Tompkins Consolidated Area Transit.) Within weeks, passengers will begin seeing the TCAT logo, which will be the first visible sign of this long-planned unification of bus routes, fares and schedules.

Product team has rehearsal for competition

The Cornell Institute of Food Technologists (IFT) Student Product Development Team, named one of the six finalists in the prestigious 1996 Product Development Competition, will have a dress rehearsal of its oral presentation June 14 at 3 p.m. in 204 Stocking Hall. The public is invited to attend.

Student team members are giving the presentation of their product called "Stir-Ins" in preparation for the final competition June 23 in New Orleans.

"Stir-Ins" is a pencil-shaped, lightly sweetened, vanilla-almond biscuit with a chocolate coating and a flavored layer, available in Hazelnut, Irish Creme or French Vanilla, for dipping in hot coffee.

Needed: An aggressive economic development effort in the county

By Alan G. Merten

We need a new—and much more aggressive—approach to economic development in Tompkins County, one that will require a significant change in both action and attitude from the Cornell community, from our elected officials and from our business and community leaders.

As I prepare to leave Ithaca, I know that I did not do what I should have done to enhance economic development in Tompkins County during my seven years at Cornell. I had many excuses, but basically I told myself that it was someone else's responsibility; other aspects of my job demanded more attention.



Merten

It seems to be part of human nature: we have great intentions, but we fail to act. No matter how important the issue, we make excuses. And then we justify our behavior by telling ourselves someone else was responsible for the task at hand or at least, would be better at accomplishing it.

As I look at Tompkins County, I wonder if this attitude isn't responsible for our failure to foster the kind of economic development that would truly improve the quality of life in the county and surrounding areas. Do we, as individuals, and Cornell, as an institution, often say the right things, but fail to act? Do we assume that economic development is someone else's responsibility? Do we hope that someone else will do it?

For economic development to occur, such attitudes must change. Cornell, both as an institution and as a collection of individuals, is an essential participant in the process. We are not solely responsible for economic development, but if we are not major players, it will not happen.

Such development is clearly in our best interests. For just one reason, consider how many times we have failed to attract faculty, staff or outstanding graduate students because Ithaca lacks adequate employment opportunities for their spouses or partners.

But if our efforts are to succeed, other attitudes will have to change as well. Earlier this year, the *Ithaca*

COMMENTARY

Journal ran a series on economic development. One quote struck my attention. It said: "Balancing high-tech commerce with quality of life is our challenge." I believe that not only is high-tech commerce consistent with quality of life, but that a high degree of high-tech commerce in Tompkins County will significantly improve the quality of life.

We seem to hold similar biases against manufacturing. Don Peterson, former CEO of Ford Motor, once said that he could not understand why Americans thought that manufacturing was a "dirty" word. More and more in this country, people are realizing that manufacturing is not a dirty word, but I'm not sure we believe that in Tompkins County.

We must raise our expectations about what is "good enough." Soon after I arrived at Cornell in 1989, I was shown a list of the Cornell spin-off companies, developed through the work of faculty and students over the previous 10 to 15 years. There was great pride in what I thought an incredibly small list. Not long after that, I saw a report from Tompkins County Area Development listing their accomplishments over the past 10 years. Again, I thought it an incredibly small list. The major impact of such attitudes was to make me—and probably others—question whether I wanted to spend my time working with people who thought those lists adequate.

As we look ahead, it will be increasingly essential for the leaders of Cornell to encourage, support, and reward the faculty's entrepreneurial activities to start and grow companies, thereby creating jobs. Cornell needs to be less worried about the size of its piece of the entrepreneurial financial pie and more worried about how to make the pie significantly larger.

I'd also like to pass on some advice to the community beyond Cornell. Learn how the university works and how to use the resources of Cornell to make things happen. Stop saying, "If only Cornell would..." Too many people are sitting around waiting for Cornell rather

than asking for specific help from Cornell. Take advantage of Cornell's faculty, particularly the younger faculty who are still developing their professional agenda and less likely to be already committed to activities outside the local area. Structure projects to involve students—both graduate and undergraduate. Be aware of the strange nature of the university calendar.

Finally, insist that Tompkins County, the city of Ithaca, the town of Ithaca, Ithaca College, Cornell and Tompkins Cortland Community College work together. Until now, there's been much individual activity but no blueprint for significant economic development.

In closing, the key question facing any leader is not what his or her organization must do tomorrow, but what they must do today to be ready for an uncertain tomorrow. What are the leaders of government, education and business going to do today to ensure that the economy of Tompkins County is ready for an uncertain tomorrow? It is not adequate to point fingers, to say it is someone else's responsibility or that someone else could do it better. It is important to reach out to others and commit personally to make a difference. If we are not going to make it better, it will get worse. For true economic development to happen in Tompkins County, there must be a commitment to act—today.

Alan G. Merten is dean of the Johnson Graduate School of Management; he will become president of George Mason University on July 1. This article was adapted from a talk given to Tompkins County Area Development on May 13, 1996.

About Commentary...

Members of the Cornell community are invited to submit "Commentary" articles of no more than 800 words for consideration by the *Chronicle*. Topics should be of importance to higher education in general or, specifically, to Cornell faculty, staff or students. "Letters to the Editor" of not more than 400 words also will be considered.

Submissions—typed, double-spaced and signed—should be sent to *Chronicle* Commentary, Cornell News Service, 840 Hanshaw Road, Ithaca, N.Y. 14850.

Rice continued from page 1

or drought," said Ray Wu, Cornell professor of biochemistry, molecular and cell biology, and leader of the international team that spliced other plant species' genes into rice. "Hundreds of millions of hungry people need this rice now, and the crop losses to insects, drought and increasing salinization of soils are devastating."

According to Gary Toenniessen, deputy director for agricultural sciences at the Rockefeller Foundation, Wu and his colleagues "have made a significant contribution toward meeting world food requirements by demonstrating that biotechnology can be used to enhance the rice plant's ability to defend itself against pests and stresses, without the use of expensive and sometimes detrimental inputs such as pesticides."

Development of transgenic rice with salt and drought tolerance was reported in the March 1996 issue of the journal *Plant Physiology* by Wu and by Deping Xu, Xiaolan Duan and Baiwang Wang, all researchers in Cornell's Section of Biochemistry, Molecular and Cell Biology, and by Bimei Hong and Tuan-Hua David Ho, researchers in Washington University's Department of Biology. Reporting their development of insect-resistant transgenic rice plants were Wu, Duan and Xu, as well as Xigang Li and Mahmoud Abo-El-Saad, both Cornell researchers, and Qingzhang Xue, a biologist at Zhejiang Agricultural University in Hangzhou, China.

The transgenic rice was developed with support from the Rockefeller Foundation's International Rice Biotechnology Program. That program funds some 40 laboratories in developed countries and another 80 in developing countries where scientists are trained to help their countries become more agriculturally self-sufficient.

Transgenic plants from both technologies are in advanced stages of testing, with large field tests scheduled this year in China. Commercial production of seed is about two years away, Wu estimated, but several com-

panies have already signed licensing agreements to use the insect-resistance gene technology in other crops, including corn and wheat.

The genes from other plant species that made the transgenic rice were first introduced to cells of three Japonica rice varieties with the Biolistic particle delivery system, the "gene gun" invented at Cornell by plant biologist John Sanford and electrical engineer Edward Wolf. Cornell Research Foundation has applied for patents on the transgenic rice technologies.

Now that molecular biologists know how to transfer the insect-resistance gene to rice, Wu predicted, it should work against any lepidopteran (or caterpillar type) insect that eats plants in the larval stage—and that is about 70 percent of the known insect pests worldwide. Among crops damaged by lepidopteran insects are sorghum, oats, rye, barley and wheat, as well as corn and rice.

In the case of the highly destructive rice pest, the pink stem borer, the insect enters the plant near the base and eats its way to the top of the stem where the rice grains form, either killing the plant or greatly reducing its yield. Because the transgenic plants do not produce an insect toxin—just a proteinase inhibitor that disrupts insects' digestion—the strategy is not 100 percent effective in eliminating insects, the Cornell scientists noted. Greater insect resistance can be easily achieved by adding genes that cause the plant to produce the Bt (*Bacillus thuringiensis*) toxin, Wu said.

The Rockefeller Foundation's Toenniessen observed that undernourishment already is a problem in most rice-dependent countries of Asia. "Populations are projected to continue growing for at least 30 years, and essentially no land is left for agricultural expansion," he said. "Discoveries such as those made at Cornell reduce crop losses and help farmers to produce more food on the same land while causing less environmental damage."



Adriana Rovers/University Photography
Ray Wu, professor of biochemistry, molecular and cell biology, examines genetically engineered rice plants growing in a greenhouse on top of Mudd Hall.

Beverly Sills, sans aria, still delights her Bailey Hall crowd

By Darryl Geddes

Beverly Sills doesn't need to hit the high notes to bring an audience to its feet.

In delivering the Spencer T. and Ann W. Olin Address at Cornell Reunion last week, Sills elicited a standing ovation from the 1,500 alumni and friends in Bailey Hall with a delightful, humorous account of her childhood and her 27-year career that saw her perform at major opera houses the world over.

Sills, who retired from performing in 1980 and now serves as chairman of the board of Lincoln Center for the Performing Arts, enthralled her audience with stories and anecdotes of how she went from being a "Shirley Temple with high notes" to the highest paid opera singer of her day.

Her drive to become a performer was propelled by her mother, who had her own dreams of becoming an opera star, she said. Sills described how, against the wishes of her father, she pursued stardom at the age of 5 and won a spot on the Major Bowes Capitol Family Hour in 1934.

Often accompanied by her mother in her early career, Sills was pronounced by one producer as "the youngest prima donna in captivity." Her mother did all the talking in contract negotiations and other discussions, permitting her daughter to open her mouth only to sing.

Sills acknowledged that it was her mother who pushed her to sing at the Metropolitan Opera. The grand New York opera house had been off limits to Sills, following a much publicized falling out with then Metropolitan director Rudolf Bing.

"After I had just opened at La Scala — perhaps one of only two Americans to ever have that honor — my mother said to me on the plane, 'Well you know you really haven't made it big till you've played the Met,'" she said.

So in 1975 — 20 years after her debut at the New York City Opera — Sills played the Metropolitan Opera for the first time. After which, Sills noted, her mother said, "Now I can breathe in peace."

Despite an introduction that promised a lecture on "The Future of the Arts in a Downsized World," Sills said that the weightiness of selling the arts in recent speaking engagements, including one before the National Press Club, had become tiresome and that she would rather celebrate the arts through a review of her career.

Sills did offer some commentary on arts



Before delivering the Spencer T. and Ann W. Olin Address in Bailey Hall on June 7, Beverly Sills held an afternoon press conference at Cornell News Service.

'After I had just opened at La Scala — perhaps one of only two Americans to ever have that honor — my mother said to me on the plane, "Well you know you really haven't made it big till you've played the Met."'

funding issues in response to audience questions. She said that the National Endowment for the Arts (NEA), which allocates public funds to various art programs and artists, should change its grant program to eliminate funding projects that may be overly offensive.

"We need to force the standards to become higher," she said. Sills questioned the NEA's funding of the controversial Robert Mapplethorpe exhibition

of homoerotic photographs.

One way to attract younger audiences to the opera and other performance arts is to lower the ticket price, Sills said in response to a questions on the graying of the theater audiences in New York. When Sills made her New York debut, the top ticket price was \$1.95. Today the top ticket at the Metropolitan Opera can go for as much as \$80.

As chairman of the board of Lincoln Cen-

ter, Sills has been working to reduce ticket prices by asking supporters to underwrite the cost of tickets, she said. These reduced ticket prices are then passed along to student groups. Sills also said the use of "supertitles" in opera, where translation of lyrics are projected above the stage during performances, has increased opera's popularity.

"You no longer have to sit in an opera house and pretend that you know what's going on — which I think is the worst form of snobbery. Now you actually know what's going on," she said.

Sills is the first performing artist to deliver the Olin Address since it was first given in 1987. The Spencer T. and Ann W. Olin Foundation, in 1986, established the endowment to fund the annual address, which fosters intellectual exchange on topics relevant to higher education and the world situation. Last year's address was given by Taiwan President Lee Teng-hui.

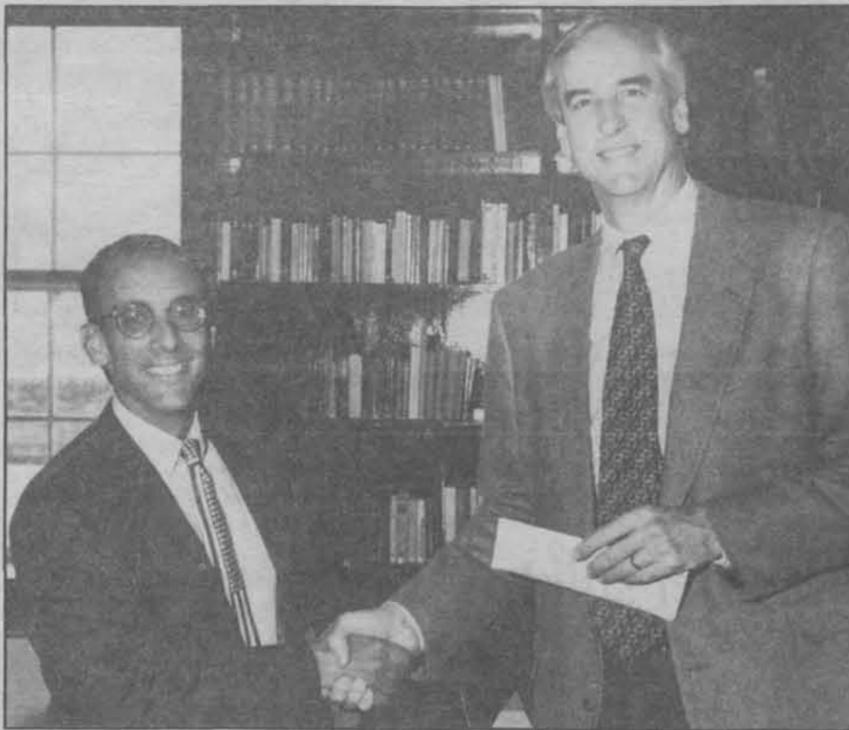
Exxon program brings Cornell \$270,000 check

The Exxon Education Foundation, which donates \$3 for every \$1 Exxon employees and retirees contribute to colleges and universities, recently presented Cornell University with a check for \$270,267.

The presentation was made to Cornell President Hunter Rawlings by Sam J. Sorbello, manager of employee relations for Exxon Ventures CIS of Houston. Sorbello is a 1977 graduate of the School of Industrial and Labor Relations; he received his MBA from the Johnson School in 1979.

"We thank Exxon Foundation for its generous support of Cornell University which will greatly strengthen the university's tradition of discovery and scholarship," Rawlings said. "It is noteworthy that Exxon encourages the philanthropic interests of its employees by matching their gifts so generously."

Among the Cornell alumni who participated in the Exxon gift-matching program this year were Cornell Trustee Carol C. Tatkon, a financial officer for the company, Elliott R. Cattarulla, retired president of the Exxon Education Foundation, and Robert A. Ganz, a strategic planner.



Cornell President Hunter Rawlings, right, is given a check for Cornell from the Exxon Education Foundation by Sam J. Sorbello, ILR '77, MBA '79, the manager of employee relations for Exxon Ventures CIS of Houston.

The Exxon Educational Foundation will provide matching grant payments of \$12.6 million this year. Cornell ranks fifth among colleges and universities in matching gifts and grants received. The

matching-grant program encourages individuals to support higher education by directing those funds to those colleges and universities that have served Exxon employees and retirees.

Law faculty rated among most published

Cornell Law School has one of the most published faculties in the country.

According to the *Chicago-Kent College of Law Review Faculty Scholarship Survey*, Cornell has the third most prolific law faculty in the nation.

The survey measures the number of articles published by law school faculties in the 20 leading law reviews from 1988 to 1992.

Cornell's Law School averaged 1.1497 articles published per faculty member in leading law reviews during the five-year period examined by the survey.

"This survey is important in that it represents the contribution of the faculty to the development of legal scholarship," said Russell K. Osgood, the Allan R. Tessler Dean of the Law School. "Faculty research helps produce a high level of instruction in the classroom and underscores our deep commitment to scholarly activities."

The survey counted any published article that was 10 or more pages in length that was written by a professor, associate professor or assistant professor.

The most prolific law school faculties, according to the survey, are: University of Chicago (1), Yale University (2), Cornell (3), Harvard University (4), and the University of Texas (5).

Reunion *continued from page 1*

service project. Cohen participated in the program, sponsored by the university's Public Service Center, not just as an alumnus but as freshman mayor of Ithaca.

At a Mexican fiesta at the Big Red Barn Friday night, alumni from the class of '81 feasted on stuffed jalapeños, sipped frozen margaritas and listened to funk and disco from CD's spun by former classmate Robert Higgins, owner of the Ithaca-based company Elephant Sound. As he listened, fellow classmate and Colorado-based anesthesiologist Paul Leo said, "Coming up here is like returning to a fountain of youth. You may still be 20 miles away, but all of a sudden, you're feeling great."

For Donna Mandel Korren '86 and her husband, Todd, Reunion '96 was a chance to see how much Donna's former classmates had changed since her 5th Reunion—and to see how much on campus hadn't changed. "We went to the Suspension Bridge to make sure our initials were still there," she said.

At Saturday's luncheon in Barton Hall, alumni at the class of '46 table described the impact of World War II on college life, as the Big Red Marching Band played the old standards from Cornell and Broadway. "There were no breaks or summer vacations," said Elaine "Windy" Windham Kain '46. "Everything was accelerated; we even had classes on New Year's Day. And you couldn't go home often or have your family visit, because of the gas shortages."

"Did you have to pick beans your first summer at Cornell?" she asked former classmate Mary "Hank" Hankinson Meeker '46. To younger alumni, Kain explained, "We made 25¢ an hour picking beans as part of the war effort."

Jan Bassette Summerville '46 recounted how she and her sorority sisters raised funds for "Cornell for Victory" by selling much-sought-after cigarettes at a Barton Hall dance; they'd gotten the cigarettes from a sailor who'd just returned from duty overseas.

Summerville summarized Cornell during wartime this way: "We had a good time, but it was very sad. I made a good friend my freshman year; six months later, he died at Normandy."

Former Navy officers Jim Moore, Lloyd Slaughter and Bart Snow, also from the 50th class, recalled carrying 20 academic credits per term to acquire their college degrees in three years. "There really wasn't much time for anything but studying," said Snow. "I doubt if I knew a half a dozen women here."

Several alumni at Reunion reminisced about events that occurred years before the Second World War. Many of the 55 returning alumni from the classes of '26 and '31 were interviewed one-on-one by alumni from the class of '66 in the Statler Hotel for "Preserving the Past, Creating the Future," a new project in which alumni's memories will be recorded, transcribed and compiled each Reunion and maintained in the Cornell Library for future generations.

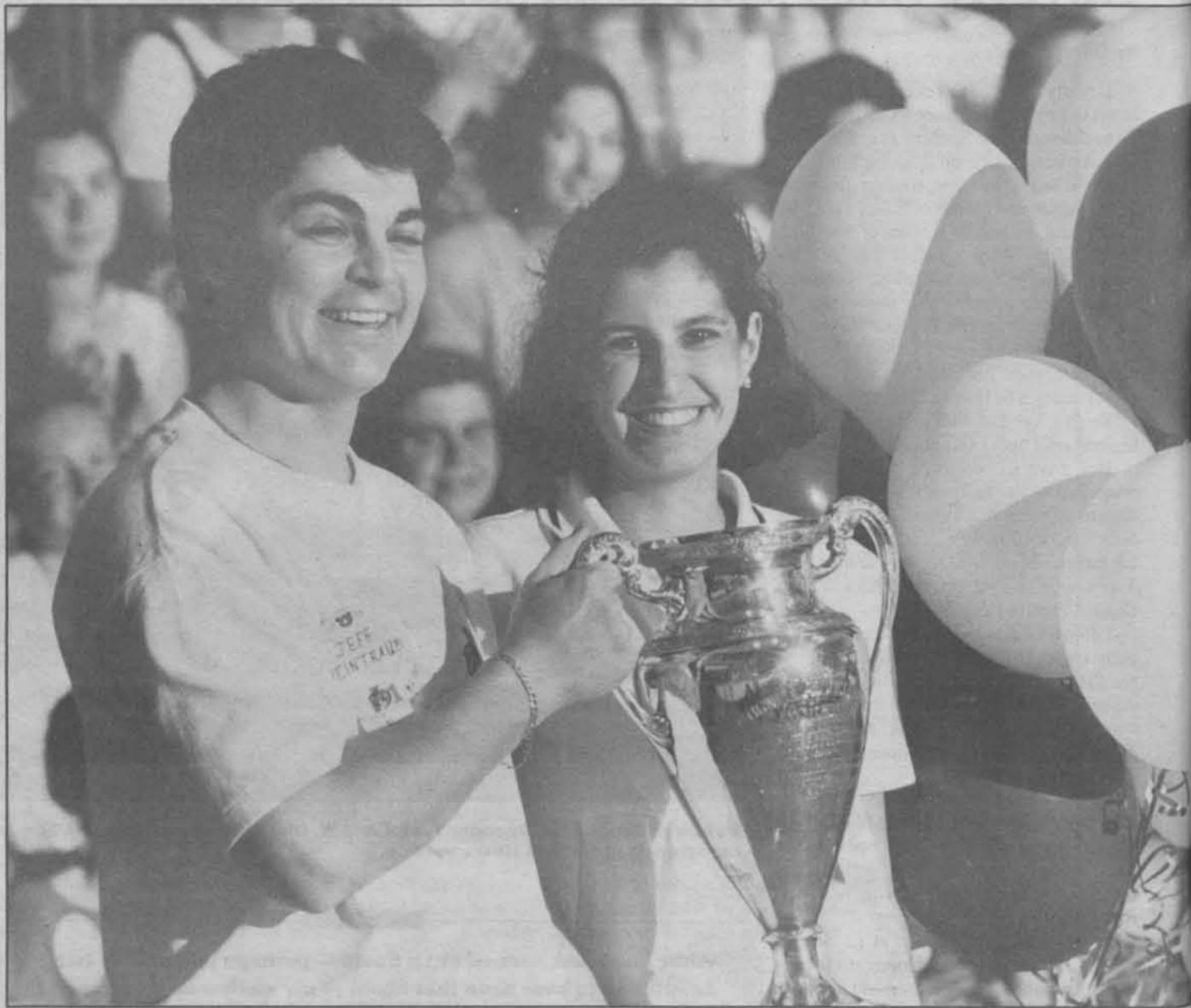
Ed Mintz '31, of Palo Alto, Calif., recounted for Kay Stroker Staid '66 how he and his buddies used to slip away from campus to get bootleg liquor during Prohibition.

Retired civil engineer Gene Lehr '26 of Bethesda, Md., told Stevie Bloomquist Wirth '66 about tobogganing on Beebe Lake and taking engineering classes in Lincoln Hall, original home to the School of Civil and Environmental Engineering and now home to the Department of Music.

"I walked in there this morning, and I didn't recognize it—except for the overhead pipes," Lehr said.

Lehr said he'd descended and ascended Libe Slope earlier that morning on his own; Wirth said she'd started to hike the Cascadilla Gorge trail, but was turned back by mosquitoes. Toward the end of the interview, Lehr told of his plans to tour Europe this fall; Wirth responded that she is a Berlin-based tour guide.

And suddenly, they weren't reminiscing at all.



Jeff Weintraub and Dorine Scher, both of the Class of '91, receive a trophy from their class at Cornelliana Night in Bailey Hall.



Barry Delibero/University Photography
The opposing teams pose for a group photo after the annual Alumni Baseball Game at Hoy Field, Saturday.

Fitzwater still has spin on the news

Marlin Fitzwater, the only press secretary in U.S. history to serve two presidents—Ronald Reagan and George Bush—entertained more than 250 Law School alumni and friends during a Reunion '96 dinner Saturday evening.

In a press conference earlier in the day, Fitzwater predicted that Republican Bob Dole will ask Colin Powell to be his running mate, and that Powell will accept.

"While Colin is sincere in saying he doesn't really seek it [the vice presidency], once you're asked its very difficult to say

no," Fitzwater said. "Historically for African Americans in this country, it would be an awfully important opportunity that would be tough to say no to."

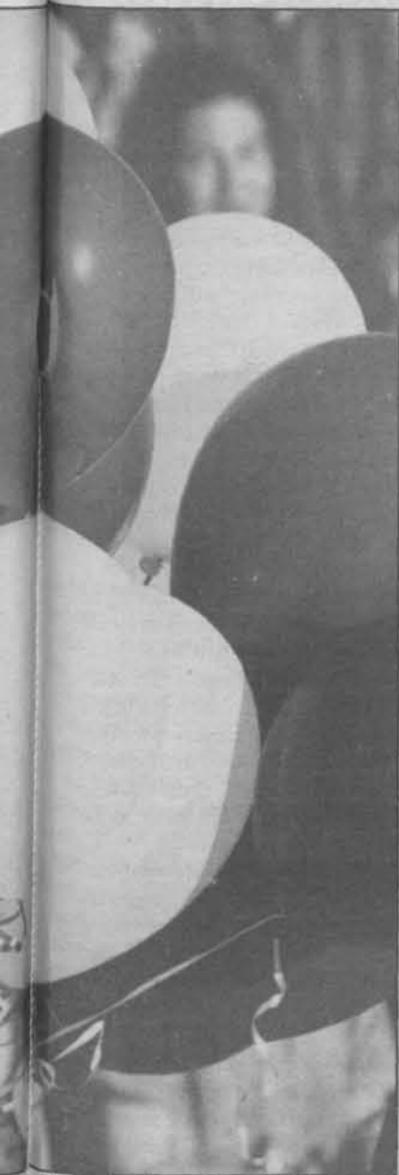
Also favoring the odds that Powell would accept if asked to be a running mate, according to Fitzwater, is that no one has ever said no to the direct question.

Fitzwater said he has been in frequent contact with the Dole camp and is willing to get involved in the campaign if needed, but he doesn't expect to be on the campaign trail.

Reunion 1996

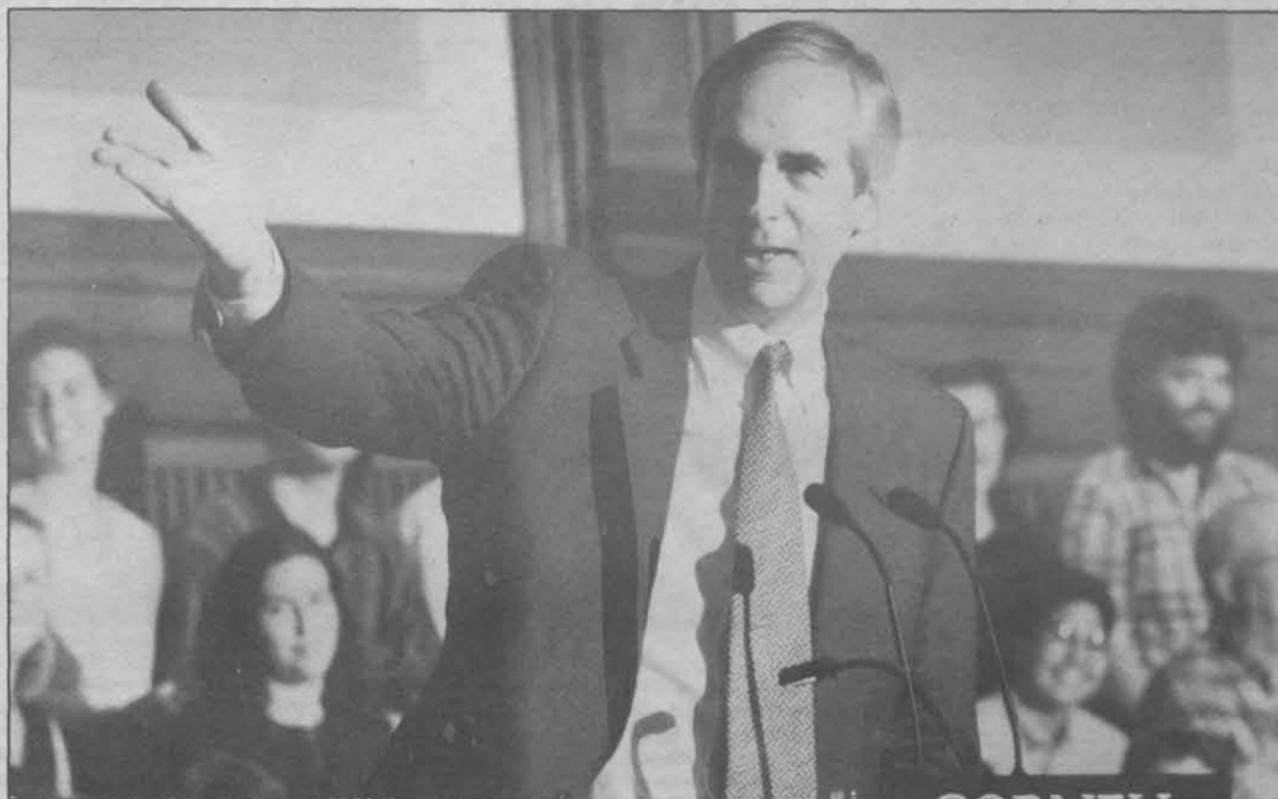


Two future alumni enjoy the Treman Memorial Picnic, Saturday.



Charles Harrington/University Photography
...all, Saturday.

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Adriana Rovers/University Photography

President Hunter Rawlings addresses the Cornelliana Night audience, Saturday.



Barry Delibero/University Photography

Ithaca Mayor Alan Cohen '81 and Susan Murphy '73, vice president for student and academic services, joined in planting the Pounder Heritage Garden at Cornell Plantations, Friday.



Barry Delibero/University Photography

Members of the 50th Reunion Class of 1946 and Big Red Marching Band parade around Barton Hall Saturday afternoon.



Charles Harrington/University Photography
...orial Concert at Cornell Planta-

CRESP celebrates its 25th and honors Rev. Jack Lewis

By Ailie Silbert '96

The Rev. Jack Lewis, who possesses the same spirit of justice and compassion for which Cornell's Center for Religion, Ethics and Social Policy (CRISP) is known, was honored for his long-term commitment to the organization at its 25-year anniversary luncheon, held over Reunion weekend.

In fact, Lewis' social vision helped nurture a wealth of programs, including CRISP, now a part of daily life on campus and in the community. As director of Cornell United Religious Work (CURW), the university's interfaith organization, he helped create the Suicide Prevention and Crisis Service and he co-founded the Festival of Black Gospel, which recently was awarded the annual James A. Perkins Prize for Interracial Understanding and Harmony at Cornell. He retired as director in 1981, after serving in that position for 16 years.

While Lewis was in the director's chair, CURW created CRISP as a social activist organization that would remain responsible and connected to the university, yet independent enough to actively address issues about ethics and public policies, said

CRISP's first director, the Rev. John Lee, during Saturday's luncheon.

Organized in a way that CRISP's former board president Tom Davis said is unique throughout the country, CRISP spans a range of concerns from its Committee on US/Latin American Relations (CUSLAR) to EcoVillage at Ithaca. Although many chaplains work closely with CRISP, such projects are not directly connected to the chaplains' work, which is another reason for CRISP's separation from CURW, said current CRISP Director Mary Webber.

Although projects have their beginnings at Cornell, many "spin out" and become independent programs within the community, Webber pointed out. For instance, when it established its independence this January, the Learning Web joined the ranks of former CRISP programs to go out on their own, including the Community Dispute Resolution Center and the Displaced Homemaker Center.

The panel discussion at the end of the luncheon, attended by many returning alumni, provided a forum for reflecting on the past and the future of CRISP. Moderated by Webber, the panel included Lewis,

Smith and CRISP's longest-term director, Philip Snyder, who served for 17 years. Kenneth McClane, the W.E.B. DuBois Professor of Literature at Cornell, and Kety Esquivel '97, a Cornell Board of Trustees student representative, also participated in the discussion.

Lewis spoke of the teamwork between himself and Smith in helping achieve the early vision of CRISP. In his role as CURW director, Lewis said he acted as the "enabler (and) negotiator" to make Smith's ideas heard by the university.

Today, CRISP has the clout within the university to support the efforts of fledgling social activist groups on campus. Esquivel, who is affiliated with the newly organized United Progressives (UP), which includes students and faculty, spoke of the essential support given to the group by CRISP and Webber, who attends every UP meeting.

Esquivel said that as an established entity on campus, CRISP assumes a "mentoring" role for UP. Just as CURW acted as the campus liaison for CRISP 25 years ago, now CRISP possesses what Esquivel described as the necessary "connection and networking" for other groups.

Dignitaries and dogs join in new Vet Medical Center dedication

By Roger Segelken

One hundred years after the newly chartered College of Veterinary Medicine opened its first building in what is now the School of Industrial and Labor Relations, officials dedicated the latest addition to the college, the new Veterinary Medical Center.

The June 7 ceremonies, attended by returning veterinary alumni, faculty members and current students, as well as state and university officials, marked the official opening of the \$50-million facility, which houses three animal hospitals and four academic departments.

Half of the century-old college's eight deans were there for the ceremony, noted Dean Franklin M. Loew as he credited his predecessors with helping build the latest and other recent additions to the physical plant. In attendance were: George C. Poppensiek (dean from 1959-74), Edward C. Melby Jr. (1975-84) and Robert D. Phemister (1985-95).

MacDonald Holmes, a 1961 Cornell veterinary graduate who is now president of the SUNY College of Agriculture and Technology at Cobleskill and president of the state Veterinary Medical Society, observed that 95 percent of the society's 1,900 members are Cornellians. He said the new facility helps fulfill the college's mission: "To provide the finest education to the brightest veterinary students in the world."

One such student, Class of '96 graduate and past president of the Cornell Student Chapter of the American Veterinary Medical Association Mara DiGrazia, recalled conditions in the old clinics that were replaced by the new teaching hospital. "The hallways were so dark that my solar calculator refused to work," she recalled, adding



Adriana Rovers/University Photography

Veterinary College Dean Franklin M. Loew presides over the dedication of the new Veterinary Medical Center and draws some laughter with his remarks. Seated, from left, are: three previous deans, Robert Phemister, George Poppensiek and Edward Melby; President of the New York State Veterinary Medical Society MacDonald Holmes; Mara DiGrazia, D.V.M. '96; Cornell President Hunter Rawlings; State Sen. James Seward; State Assemblyman Martin Luster; and SUNY Vice Chancellor Irving Freedman.

that space was cramped and patients were treated "in the intensive care closet."

By contrast, the new facility is so spacious, DiGrazia joked, that students "were given two days off to learn our way around." She thanked everyone responsible for a facility "at the cutting edge of technology for veterinary medicine and an education that cannot be surpassed."

Irving Freedman, SUNY vice chancellor for capital facilities and avid baseball fan, made a sporting allusion when he listed

state-funded projects at Cornell. First base is the addition to the College of Human Ecology, he said, and second base is the Mann Library expansion, for which ground was broken earlier in the day. Third base is the enlarged Catherwood Library in the ILR school, "and we hit a home run," Freedman said, with the Veterinary Medical Center.

State Assemblyman Martin Luster recalled an earlier, impressive tour he had of the new Companion Animal Hospital. When he returned home, he said, he told his wife:

"If I ever become ill, feed me a doggie yummy and send me there." Luster read from a joint resolution by the state Assembly and Senate, noting that the excellence of veterinary education at Cornell "is one of the few things both houses of the Legislature agreed on this year."

State Sen. James Seward said the ceremony was a "celebration of the future" and that the state's investment "will pay dividends for many years to come."

The Companion Animal Clinic, formerly called the Small Animal Clinic, treats some 13,000 pets a year, Cornell President Hunter Rawlings noted, and one of those is his own dog, "a noble beast" by his account, with the name of Hana. "Hana was well cared for, and she will be back," Rawlings promised.

Obviously enjoying the festivities and barking occasionally in agreement was a current patient of the hospital, a bandaged and shaved dog that was out for an exercise walk behind the large tent that dedication organizers set up in the college's "O" lot.

Three other dogs had official roles in the ceremony, providing canine escorts for distinguished guests and speakers to the stage. One, a New York State Police drug-sniffing dog, strained anxiously at his leash as he followed the dignitaries' heels.

Somewhat better behaved were two blue-coated puppies-in-training for the organization Guiding Eyes for the Blind. The young Labrador retrievers, including one trained by third-year veterinary student Susan Hubbard, performed their escort task with dignity.

The rest of the time the puppies patiently waited for the ceremony to be over, so that the veterinarians, staff and senior students could get back to the business of taking care of animals.

Groundbreaking repeats elements of '05 ceremony

By Blaine P. Friedlander Jr.

Once is an event; twice becomes a tradition. Ninety-one years after Liberty Hyde Bailey marked the boundaries of Cornell agriculture buildings with a plow, that same tool was used to break ground Friday, June 7, for the 75,000 square-foot addition to the Albert R. Mann Library.

Jan Olsen, director of the library, guided a team of nine faculty "plowhorses" who, in their turn, marked the beginning of a new era for the venerable reference house. "It is a place where truth can be pursued freely," Olsen told the crowd at the groundbreaking. "A library is a special building; it is a cathedral for the mind."

Just as Bailey, former dean of the agriculture college, did when marking the foundation of the original Roberts Hall, the team of the '90s used his 1900 stubble model plow built by the Syracuse Chilled Plow Co., which later merged with John Deere and Co. The plow had been sitting in a display case at the library since 1980 — the 75th anniversary of the New York State College of Agriculture.

When construction is completed — expected in about three years — the entire collection housed in the Mann Library will be moved into the addition, so that renovation can begin on the older part of the building.

The library was designed in the 1930s, but because of the Depression and World War II, construction was delayed until the 1950s. In fact, the current addition was scheduled to be finished in the mid-1970s.

"Finally, after all these years," said a smiling Henry Murphy, director of the library from 1969 to 1981, at Friday's ceremony. At the conclusion of all the current construction work, which is expected to be 1999, and at the end of the renovations to the old building, which is expected to be in 2001, Mann Library will have a front atrium with cantilevered floors all the way to the top of the building, said Chris Marcella, project manager for the State University Construction Fund (SUCF). It will also have the latest in networking technology, where every reader station and every study carrel will have a jack for access to computer networks, including the Internet.

Housing the 750,000 volumes that belong to the College of Agriculture and Life Sciences as well as the College of Human Ecology, the library will gain about 75,000 square feet of usable space and an upgrade in its climate control, fire protection and general technical infrastructure. The cost of the addition — a product of the State University Construction Fund — is about \$16.7 million.



Barry Delibero/University Photography



Above, Jan Olsen, director of Albert R. Mann Library, handles the plow as faculty members pull during groundbreaking ceremonies for the library's extension, June 7. Left, in 1905, Liberty Hyde Bailey guides the same plow to mark the boundaries of Roberts Hall.

Conference looks at campus cooperation in bioengineering

Larry Bernard

Cornell faculty and administrators from a variety of fields gathered on campus June 3 to discuss how engineering and biology disciplines can cooperate in doing basic research.

The "University-wide Discussion on Bioengineering" featured speakers from the College of Engineering, the Division of Biological Sciences, the College of Agriculture and Life Sciences and the College of Arts and Sciences, and brought together faculty who have an interest in one of Cornell's newest programs — Bioengineering.

"We are creating an intellectual vision for where we want to go (in this field)," said John Hopcroft, the Joseph Silbert Professor of Engineering, who issued the charge to participants gathered in room 101 Phillips Hall, a refurbished multimedia auditorium/classroom. "It's hard to imagine a unit where molecular biology is not going to play a major role. Our goal today is to plant a seed . . . and nurture and develop it."

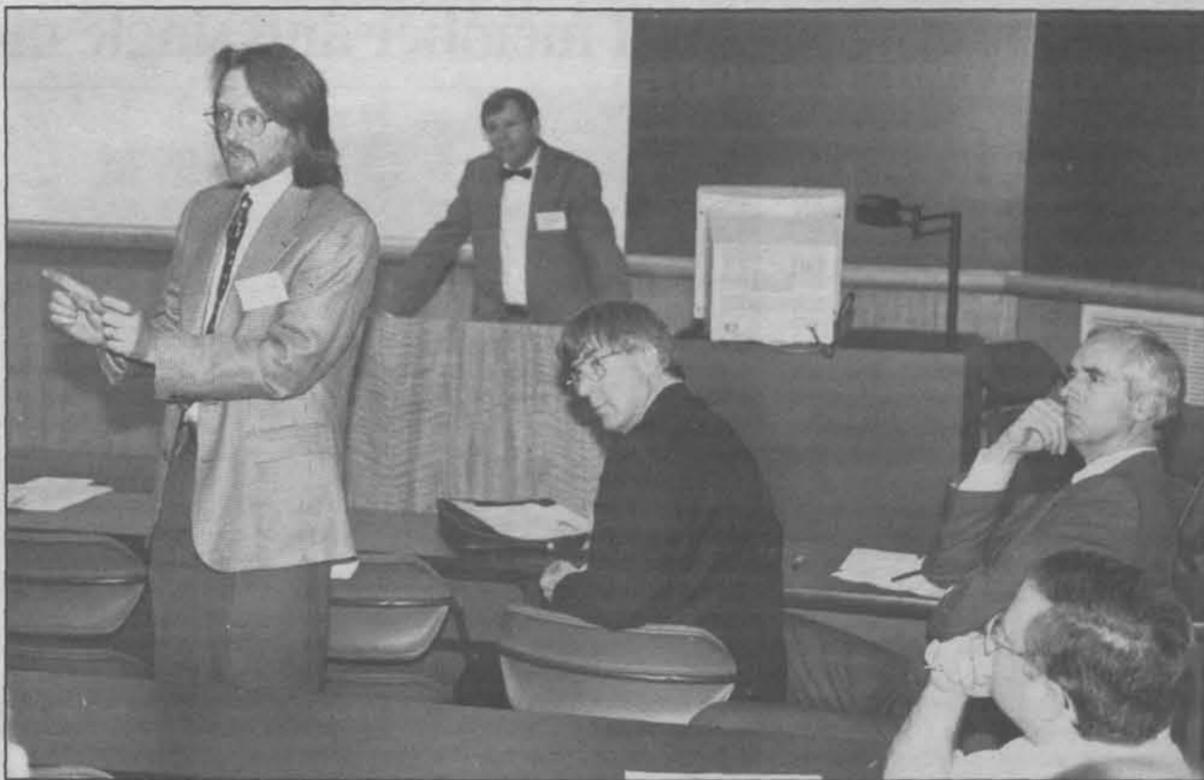
Michael Shuler, the Samuel B. Eckert Professor of Chemical Engineering and director of the Bioengineering Program, moderated the session. He said that bioengineering has been done at Cornell for the past 40 years, but only two years ago became a university-wide program.

President Hunter Rawlings delivered the introduction and opening address. "We are just beginning to understand the potential in this field," which, he said, is of growing importance to Cornell. "In times of tight budgets, it is important to focus on the strengths we already have . . . and the potential for enriching our research programs," he continued.

Five speakers gave brief overviews of some of the research areas they are investigating. In all, 32 faculty members are part of the Cornell Bioengineering Program. The first doctoral candidate in biomedical engineering will be studying here this fall, and graduate engineering students already can take a "Bioengineering option" as a specialty within their master's program.

Jon Clardy, the Horace White Professor of Chemistry, described efforts to engineer drugs for genetic therapy. As an example of gene therapy, he described Rapamycin, a drug that turns off the immune system and can be used in cancer treatments. Using a so-called small molecule to turn the foreign gene, the binding sites can be regulated so that they are closer together, making a therapy more effective.

"The difficulty is in turning the gene on and getting it to do what you want," Clardy said. "If you get two proteins next to each other, you get a product." Using campus resources, such as the Cornell High Energy Synchrotron Source for X-ray diffraction and the Cornell Theory Center for high-performance computing and visualization, Clardy and others in chemistry and biology are working on designing drugs and manipulating proteins.



Adriana Rovers/University Photography

At the Bioengineering conference held on June 3, W. Mark Saltzman, left, of the Chemical Engineering department, makes a point while Michael Shuler, director of the Bioengineering Program, middle, and President Hunter Rawlings listen. Peter Bruns, chair of the Division of Biological Sciences, rear, moderated the question-and-answer session.

Noel MacDonald, director of the Cornell Nanofabrication Facility and professor of electrical engineering, described efforts to build super-small, nano-scale biological and medical structures. "Several microinstruments are now on the horizon," he said. "It's really growing at a rapid rate."

MacDonald described a scanning, tunneling microscope he has built with a tip 5 microns tall. He envisions putting thousands of tips on a silicon chip to probe molecular-sized samples.

"We would like to have biologists put things on our tip," MacDonald said. With the ability to probe individual atoms, he told the group, "there could be a big payoff. Biofactories on a chip are possible."

Lynn Jelinski, director of the Center for Advanced Technology in Biotechnology and professor of engineering, who organized the afternoon discussion, showed that materials of the future may be inspired by biology. "The tools of biotechnology are at the point where you can make designed materials. We can insert genes encoding the structural protein into plants. We can harness biotechnology to make new drugs and materials."

As an example, Jelinski showed the work in her lab on synthesizing super-strong spider silk to insert into plants to make strong fibers.

W. Mark Saltzman, who arrives at Cornell this summer from Johns Hopkins for a faculty position in the Department

of Chemical Engineering, described research on making polymers for internal drug delivery systems during a talk on how to build improved drugs and rebuild damaged organs. With so called polymer-drug conjugates, "you can program where a drug will be delivered and at what dosage, down to the millimeter," he said. "We're certain this will be useful in treating diseases of the brain."

Saltzman said that engineering new drugs that work better than traditional therapies is the goal. "We can make biological arrays of molecules and can deliver controlled doses to a specific tissue," he said.

The Earth as biosphere was the subject of a talk by Larry Walker, professor of agricultural and biological engineering, who described how bioengineering "can have an impact on a sustainable world and quality of life," he said.

From natural products that can reduce the need for herbicides to the microbial activity in compost, Walker said, there are ways to engineer a better world. With 70 percent of the municipal solid waste in this country being organic, he said, there may be better or more efficient ways of recycling organic material.

Peter Bruns, chair of the Division of Biological Sciences, moderated a question-and-answer session in which faculty in the audience participated. Faculty from the Cornell Medical College and College of Veterinary Medicine said they saw promise for collaborations with engineering disciplines.

Corporate partners see benefits in Theory Center program

Ford: Reducing time from design to production

By Faith Short

Ford Motor Co. of Dearborn, Mich., has joined the Cornell Theory Center's Corporate Partnership Program (CPP). The company plans to apply CTC's high-performance computing capabilities in order to reduce the time it takes to bring a new car to market.

"We're eager to scale up the numerical simulations to help system design," said George Shih, a supervisor in Ford's Advanced Vehicle Technology group. "HPC will help us reduce the time from initial design to a new car rolling off the assembly line."

The physical prototyping of automotive parts and components is time-consuming and expensive. Physical prototypes also limit the number and accuracy of scenarios that engineers can initiate. The reduction of physical parts prototyping with numerical simulations is crucial in order to ensure U.S. auto industry competitiveness in a global market.

"The Cornell Theory Center looks forward to helping Ford accelerate its product development cycle with our advanced parallel computing capabilities," said Malvin H. Kalos, Theory Center director. "Our 512-node IBM RS/6000 SP and new high-performance storage system offer industry

a unique, scalable environment to develop and test solutions to complex engineering problems ranging from computational fluid dynamics to crash simulations."

Ford's simulations will include underbody, under-hood, power trains and exteriors. Software will be tested for scalability and performance. "The goal is to increase the accuracy of our simulation models without sacrificing the number and speed of simulation runs," Shih said.

When Ford incorporated in 1903, its staff of 10 people worked in a converted wagon factory in Detroit. Today, more than 338,000 men and women work in Ford factories, laboratories and offices around the world, and Ford products are sold in more than 200 nations and territories.

Ford is among 19 companies currently using CTC's advanced computing capabilities and staff expertise to accelerate their R&D and information technology initiatives.

CTC is one of four high-performance computing and communications centers supported by the National Science Foundation. Activities are funded also by New York state, the Advanced Research Projects Agency, the National Center for Research Resources at the National Institutes of Health, IBM and other members of CTC's Corporate Partnership Program.

Kodak: Speeding efforts in research and development

By Faith Short

Eastman Kodak Co. has joined the Cornell Theory Center Corporate Partnership Program (CPP) to access strengths in algorithm development as well as the center's 512-node IBM RS/6000 Scalable POWERparallel Systems (SP).

"Kodak is working on a number of uniquely interesting scientific problems having to do with making good photographic emulsions that lend themselves to computational modeling," said Malvin H. Kalos, Theory Center director. "We are delighted to be able to explore with them the ability of our SP computers to accelerate their designs. With Kodak's base in Rochester, we're also happy to help a New York state industry stay at the leading edge of the latest technology."

"In our first project, we plan to run a new MultiMATLAB implementation on the IBM RS/6000 SP to simulate photo electron-hole processing by silver halides," said Peter Castro, Eastman Kodak's supervisor of applied mathematics. "We're not only interested in the IBM SP, but in close interactions between Kodak researchers and Cornell scientists in the areas of mathematical analysis and new algorithm development," Castro said. "These areas are critical in the effective

modeling of charge carrier processing."

A second Kodak project expected to benefit from interactions with CTC is the visualization of time-dependent charge transport in solid state image sensors. This capability will help Kodak better understand and control the electronic processes that are central to high-quality electronic imaging.

Rajinder Khosla, technical associate to the chief corporate technical officer at Eastman Kodak, is spending a year at Cornell as the liaison between Kodak and Cornell. His mission is to enhance the scientific interactions between the institutions.

"The Theory Center looks forward to accelerating Eastman Kodak's research and development efforts," said Peter M. Siegel, director of the CPP. The corporate program has grown to 17 members, several of whom are working in materials science research. "The growth of our corporate program reflects not only the robustness of the IBM RS/6000 SP, but recognition by the materials science research community of our expertise in algorithm development and performance optimization," Siegel said.

The Cornell Theory Center is one of four high performance computing and communications centers supported by the National Science Foundation.

Full-time student, staff member and single mom leads a full life

By Susan Lang

No ordinary college senior, Darael Mahoney had been married and was raising two babies by the time she was in her early 20s. Now at 41, she will be receiving her Cornell undergraduate degree after the fall semester.

Mahoney was an honors student at Horseheads (N.Y.) High School and was a gifted violinist. Her family of nine lived in a rural area.

"Going on to college was not as important in those days, at least not in my area," said Mahoney, now a single mother of four children, a student in the College of Human Ecology and a full-time transportation services representative for the university.

Nine years ago, after she had been married 14 years and her youngest child was 3, Mahoney suddenly found herself a single parent with no job experience, forced to support her four children. Determined not to go on public assistance, she found a receptionist job that paid just over minimum wage.

"For three years I struggled, knowing that going back to school was the only way to go, but how could I go to school and support my family?" she recalled thinking. "Then I heard that Cornell allowed their employees to take classes as a benefit, and I was determined to go."

Four months later, in October of 1991, Mahoney was offered a position with Transportation Services; within three months, she was taking her first course — creative writing — as an extramural student.

"I was insecure about my abilities after all those years of not being in school," she said, "and I wasn't sure if I could compete with Cornell students. If (English) Professor Robert Morgan had not been supportive, I might have given up, but he was wonderful and I kept at it."

For a year, she continued taking one course a semester, extramurally, using her lunch hours. "My supervisors and I worked together to devise a schedule we both could live with," Mahoney said.

Then she learned that the Cornell Employee Degree Program allows two courses a semester, but it also requires staff to apply to Cornell like any prospective student. To be accepted, Mahoney needed a chemistry or physics course and, if it was not taken at Cornell, she'd have to earn an A.

"That next semester I commuted 45 minutes to Ithaca to work and then home, and then 45 minutes in the other direction at night to take physics at Corning Community College," Mahoney said, "but I got my A."

Accepted into the College of Human Ecology the following semester, Mahoney learned



Darael Mahoney, 41-year-old mother of four, is a senior in the College of Human Ecology and also a transportation services representative for Transportation and Mail Services.

'Both co-workers and management have been wonderfully supportive throughout this process.'

that she had been chosen as a Cornell Tradition Fellow, which recognized her work and service to the community and, along with financial aid, would allow her to attend Cornell for free.

But there was a catch. She'd have to be a full-time student.

Thus, for the past three years, Mahoney has had a full load of courses while working 30 to 40 hours a week at Transportation Services and supporting and raising her children. In order to work and attend school, she leaves home in Erin, N.Y., at 6 a.m. daily to drive 45 minutes to Ithaca which, in winter, "can be terrifying," she said.

"A typical day starts at 5 a.m., I'm at work by 7 a.m., take a few hours here and there to go to classes, and then homework at night keeps me up until at least midnight," Mahoney said. "My kids have remained my

first priority, but housework has really fallen low on the list.

"Both co-workers and management have been wonderfully supportive throughout this process, and this position has allowed the flexibility that I needed," she said. "Without their cooperation, I would never be able to do this."

Mahoney feels there is something of a gulf between the staff and the students here at Cornell, and being part of both has "brought a unique and broader perspective to this experience," she said.

"I find it really sad that more Cornell employees don't enroll in the courses offered here," Mahoney said.

As a human service studies major, she will receive a bachelor's in social work (B.S.W.) in December. That degree required an internship, which Mahoney did at Spen-

cer-Van Eiten Elementary School, counseling children and families and leading children's workshops in self-esteem, peer pressure and conflict resolution.

She has a 3.9 cumulative average and was recently chosen as a Merrill Presidential Scholar for her "outstanding scholastic achievement, strong leadership ability and demonstrated potential for contributing to society."

Upon receiving her degree, Mahoney plans to continue on for a master's in social work (she'll only need one year), which is not available at Cornell.

"I'll figure it out. I have the confidence that I can work through the bureaucratic system and I hope that with my degree I can help others who feel they have no power or control in their lives to do the same."

The week before Cornell commencement in May, she went as proud mom to her son's graduation ceremony at Rensselaer Polytechnic Institute, where he graduated cum laude.

"Sometimes I think I'm still dreaming," she said. "I can't believe that I'm really doing this."

Health study will look at mandated Medicaid managed-care policies

By Susan Lang

As the Medicaid system moves into a managed care model on a state-by-state basis, the entire medical structure in this country will change dramatically and the potential consequences "could be monumental," warns a Cornell health economist.

"We're on a fast-moving train but have no idea where it's going; that much money going into a managed care model will drive the entire way we all get medical services," said John Kuder, associate professor of health economics and finance in the College of Human Ecology.

With two grants totaling \$1.18 million from the Pew Charitable Trusts, Kuder and Robert Hurley of the Medical College of Virginia will study which policies work — and which don't — when it comes to mandated Medicaid managed care.

Specifically, the researchers will examine:

- the states' ability to manage enrollment processes to ensure access and fair treatment

of all groups, especially at-risk groups such as women and children, in specific managed care programs;

- how beneficiaries negotiate the choices involved in selecting a plan or disenrolling from a plan;

- the influence of Medicaid managed care on services to the uninsured;

- the relationships between private managed care organizations and community health care providers;

- how health care providers are influenced by mandated Medicaid managed care.

To achieve these goals, the researchers will conduct on-site interviews, develop case studies and collect relevant quantitative data in four metropolitan communities; to date, only Philadelphia has been identified. They will mail questionnaires to Medicaid recipients who disenroll and then enroll in different managed-care programs to analyze the process as well as the reasons. In addition they will survey state Medicaid agencies to find out whether, and how, states track patient changes from one plan to another.

Finally, Kuder, of Cornell's Sloan Graduate Program, and Hurley plan to develop and recommend policies and procedures that states could use to address problems related to patients switching plans, to evaluate and monitor performance and to purchase health

services for women, children and other high risk groups under mandated Medicaid managed care.

The Pew grant is being supplemented with a \$100,000 grant to Andrea Kabcenell, also of the Sloan Graduate Program. This award, from the Robert Wood Johnson Foundation, is to be used for the study of these issues among disabled people.

More than 10 million Medicaid beneficiaries are in managed-care arrangements. This number will mushroom as states such as Pennsylvania, New York, California and Texas move toward statewide mandatory models.

"Various pending federal reform proposals to shift more risk and responsibility for Medicaid to the states will almost certainly intensify the dramatic transition to prepaid managed care—everywhere," said Kuder, who teaches courses in health care finance, health economics and medical care organization.

"Mandated Medicaid managed care is bound to change the entire structure of the health-care safety net, and we want to ensure that high risk groups don't slip through or get entangled in the net. Rather, we want to make sure that the net acts more like a trampoline, if you will, so that beneficiaries get bounced back into the mainstream system.

"No one's been down this road before," Kuder added. "With each state evolving on its own, we want to figure out what works and what doesn't to provide early warning signs to prevent disasters while offering suggestions and recommendations about best practices."

The Pew Charitable Trusts, a national and international philanthropy with a special commitment to Philadelphia, support non-profit activities in the areas of culture, education, the environment, health and human services, public policy and religion. Through their grant making, the Trusts seek to encourage individual development and personal achievement, cross-disciplinary problem solving and innovative approaches to meeting the changing needs of a global community.

The Sloan Program for Health Services Administration, one of the first graduate academic programs in health services management in the world, offers 15 to 20 students a year a master's degree in health administration. Of the 800 program graduates, more than one-third occupy chief executive positions in their organizations. Faculty members are a diverse group, including a policy scholar, a finance expert, a health economist, an ethicist, an epidemiologist and a former CEO.



Kuder

CORNELL RESEARCH

Screening of culled dairy cows aims to cut *E. coli* contamination

By Roger Segelken

Only a small percentage of dairy cows that are culled from herds are believed to harbor the pathogenic *Escherichia coli* O157:H7 bacteria. But the potential for contamination is enough to launch two Cornell-based programs that could help beef producers nationwide avoid government overregulation, while ensuring a healthful food supply.

The New York State Cull Dairy Cow Project, based in the College of Veterinary Medicine's Diagnostic Laboratory, is testing culled dairy cows just before slaughter at the packing plant – and tracing the animals' history back to the farms to learn why some cows harbor the bacteria while most do not.

The New York Beef Safety and Quality Assurance Program hopes to persuade dairy farmers that, as a cow's milk-producing days wane, she is still part of the food supply and should move into the food chain in good condition.

"ECO157 is not one of the common *E. coli*, but, unlike the others, some people can die from the O157:H7 strain," said the Diagnostic Laboratory's field epidemiologist, Christine A. Rossiter, V.M.D., referring to the *E. coli* strain in improperly handled hamburger that killed three patrons of a Washington state restaurant in 1993.

"Food handling practices every step of the way – from the packing plant, to the distributors and retailers, to your kitchen counter – are important factors in fostering or suppressing the growth of bacteria," Rossiter said. "You can't blame the cows for everything, but if this bug is getting into the food supply from the farm, we want to find out how much there is and how we can reduce its occurrence."

"Culls" are dairy cows that are removed from the milking herds for any reason, most commonly because they're not producing enough milk to justify their upkeep. In New York, the nation's third largest dairy state, about one-third of the dairy herd – about 175,000 cows – are culled each year. Because meat from older dairy cows is not tender and marbled enough to be prime cuts of beef, much is ground for hamburger.

"Cull cows are a huge resource of hamburger in this country, where 50 percent of the beef we consume is hamburger," said Ted C. Perry, the beef cattle extension associate in Cornell's College of Agriculture and Life Sciences. New York's culled dairy cows account for three-quarters of all beef produced in the state; most of the 10.5 million pounds of hamburger eaten by New



Charles Harrington/University Photography
Christine Rossiter, VMD, left, field epidemiologist for the College of Veterinary Medicine's Diagnostic Laboratory, speaks with Ted Perry, Beef Cattle extension associate, at the Department of Animal Science Teaching and Research Center in Harford.

Yorkers each year comes from former dairy cows.

A preliminary survey, conducted last year at a major Northeast packing plant by the Cornell researchers with support of veterinary and field staff of the New York State Department of Agriculture and Markets, found ECO157 in only about 1 percent of 1,600 culled dairy cows. An earlier survey of dairy heifers, conducted in 28 states by the U.S. Department of Agriculture, found ECO157 in almost 4 percent of the young cows and about 5 percent of dairy herds. A similar prevalence of 1 percent has been found in cow populations by other researchers.

"This is not a 'cow disease' and it doesn't seem to

affect cattle one way or another," said Rossiter, an expert in paratuberculosis and other cattle-borne infections that are prevented and controlled by good management practices. "We don't know why some animals have ECO157 and others don't, but dairy and beef cattle may be a 'reservoir' for this infection on its way to humans."

"Forget the needle in the haystack. You're talking about the tip of the point of the needle – an extremely small amount of *E. coli* somewhere in tons of beef," Perry said, explaining one reason the federal government simply cannot test everything for ECO157. "Even 1 percent of a packing house output is truckloads of beef."

A better strategy is preventing any contamination from animals that enter the food supply, the Cornell researchers propose, and that view is shared by their supporters and collaborators in this project: the New York Beef Industry Council and the New York Cattlemen's Association, the New York State Department of Agriculture and Markets and the USDA's Food Safety Inspection Service (FSIS).

So the cull cow project is going back to the farm. Sixty New York dairy farm operators – 30 who sent at least one ECO157-positive cow to slaughter and 30 randomly chosen operators who did not – are being interviewed in a search for risk factors that may be associated with ECO157 shedding. Cows that are most likely to be culled in the near future will be tested for ECO157, and farm operators will be asked about each cow's history, including its age, physical condition, health status, nutrition and milk production. Questions about overall farm management, housing and culling policy may tell the researchers why just a few cows shed the organism – a knowledge that may lead to recommendations.

Meanwhile, Perry is taking the Beef Safety and Quality Assurance Program to cattle producers around the state. In workshops with farm owners and veterinarians, many held in cooperation with Empire Livestock Markets, Perry delivers the message: "There are dollar-and-cents reasons to cull and sell dairy cows while they are still in good condition." The temptation, he said, is to keep animals in the herd as long as they are producing milk, "even though they may not be breaking even on the cost to produce it."

Once the New York state study – together with concurrent studies in other areas of the country – identify the risk factors for *E. coli* contamination, beef producers will know what to do next. They will be able to add to the good-management practices that ensure herd health, profit and quality products for the marketplace.

Study: When parents argue, they're more likely to fight with kids, too

By Susan Lang

On days that parents bicker, both mothers and fathers are much more likely to also have tense days with their children, according to a new Cornell/University of Arizona study.

And although mothers, in general, have conflicts with their children about 40 percent more often than fathers do, fathers are twice as likely to argue with their kids on days they argue with their spouses than on other days.

"Whether mothers work full-time or not, however, seems to be key as to whether fathers experience a lot of so-called tension spillover from the marriage to the children," said Elaine Wethington, a medical sociologist and Cornell associate professor of human development and family studies. "In families where mothers were employed full-time, we found that fathers were twice as likely to experience tension spillover compared with families in which mothers did not work full-time."

Wethington and David Almeida, a developmental family psychologist and professor of family studies at the University of Arizona, analyzed the tension and stress entries in diaries kept for six weeks by 113 white married fathers and mothers living near Detroit. Their goal was to determine whether parents are more likely

to have tense interactions with their children on days they experience conflict with their spouses.

Whereas previous studies on tension spillover have compared families, this study is the first to examine tension spillover within families for any length of time. The findings were presented to the Society for Research on Adolescence in Boston in March.

Specifically, the researchers found that during the 42-day period:

- Couples, on average, reported marital tension more than 5 percent of the days studied.

- Mothers reported tension with their children on about 10 percent of the days studied; fathers reported tensions on 6 percent of the days.

- When parents argued, mothers were three times more likely and fathers six times more likely to have conflict with children.

- Other daily stressors, such as work overload or home demands, doubled fathers' tension spillover to their children, but did not affect mothers' tension

spillover. This effect of having a bad day seems to be concentrated among fathers in families where mothers are employed full-time, Almeida said.

- Each additional child in the family increased the likelihood of mother-child tension by 36 percent, while having adolescents decreased the likelihood of mother-child tension by more than 50 percent.

In previous research, Wethington, in collaboration with University of Michigan researchers Niall Bolger, Anita DeLongis and Ronald C. Kessler, found that "stress spillover" occurs between home and work quite readily, especially among men. Husbands were three times more likely than wives to have conflict at work after having arguments at home. Husbands and wives, however, were equally likely to have stress at home after a bad day at work.

More recently, Almeida and Wethington found that the more time fathers spend caring for their children, the more arguments they had with them, especially when fathers were in a bad mood.

These findings might explain why Wethington and Almeida found such gender differences in their marital stress spillover study.

"Since fathers don't tend to spend as much time with their children, they are less likely to argue with them," Almeida

said. "When they do argue with children, the cause seems to be more likely due to a spillover effect. Mothers also appear to be better at compartmentalizing their stressors, not allowing stress from one arena to spill over into another arena."

The researchers suspect that the reason why men with employed wives are much more likely to fight with kids on days they've argued with their wives, compared with other men, could be because these fathers spend more time caring for the children. More home responsibilities put more demands on fathers and more opportunities for conflicts with children. Also, when women work full-time, they may have depleted energy to protect the family from spillover stress, Almeida said.

"We've found overwhelming support that tension from marriage spills over into the parents' relationships with their children," the researchers said. "However, we must remember that positive interaction and harmonious relations are also contagious. Sharing accomplishments, laughter and joy with a spouse are certainly likely to engender positive interactions with children and vice versa."

Currently, the researchers are interviewing a representative sample of 1,500 people nightly for eight days to explore more deeply conflicts of the day and their spillover effects.



Wethington

CALENDAR

June 13 through June 20

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

Open to the Cornell community and general public, all events are free unless noted otherwise. Beginners are welcome; no partners are necessary. For information, call Edilia at 387-6547 or Marguerite at 539-7335 or send e-mail to David at <dhrl@cornell.edu>.

On June 16, Rumba and Fox Trot will be taught by Marguerite Frongillo, 7-8 p.m., request dancing 8-9:45 p.m., Vet School Atrium.

exhibits

Johnson Art Museum

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

- Brown Bag Lunch Tours: Thursday Noontime Gallery Talks June 13: Tour the exhibition "Methods and Media: Twentieth-Century Sculpture from the Collection" with curator Diana Turnbow. Bring your own lunch and enjoy the view from the sculpture court at the end of the tour.

- Public Reception: Celebrates the recent opening of the museum's special exhibitions, 5-7 p.m., June 15.

- "A Life Well Lived: Fantasy Coffins of Ghana by Kane Quaye," through June 16.

- "The Gertrude and David Tucker Collection of American Painting," through July 7.

- "Methods and Media: 20th Century Sculpture From the Collection," through Aug. 11.

- "Prints of Darkness: Images of Death," through Aug. 4.

- "Class of 1951 Prints," through Aug. 11.

Hartell Gallery (M-F 8 a.m.-5 p.m.)

Ten artists from this year's Reunion classes are exhibiting their work at the second annual Cornell alumni art exhibition through June 14.

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 and children under 12), except for Tuesday night Cinema Off-Center at the Center for Theatre Arts (\$2) and

Exhibition on the evolution of dress is open through Aug. 22

By Susan Lang

See how basketball and skiing athletic wear has become part of popular fashion, how surrealism in the fine arts in the 1930s has influenced fashion ever since and how the first couturier, Charles Worth, incorporated aesthetic ideas from Chinese and Japanese textiles into his great designs.

All these and more are in a new exhibition, "A Dialogue Across Time: Evolution and Change in Dress," in Room 317 of Martha Van Rensselaer Hall. The exhibition is free and open to the public and will be open until Aug. 22.

The exhibit is the outcome of research conducted by students in the course, Textiles and Apparel 675: Aesthetics and Meaning in World Dress, taught by Charlotte Jirousek, assistant professor of textiles and apparel in the College of Human Ecology. Each student con-

ducted research and wrote a paper on a cross-cultural or cross-time comparison of dress. The exhibition illustrates that research and demonstrates how social and cultural factors are reflected in appearance. Most of the garments and textiles used in the exhibition are drawn from the Cornell Costume Collection.

Jirousek, the curator of the Cornell Costume Collection, says the collection is a research and teaching tool of 5,000 items consisting of American clothing from the 1800s to the present, clothing and textiles from around the world, and an historical and international collection of dolls, in addition to historical apparel magazines.

The exhibition is open from 9 a.m. to 4:30 p.m. Monday through Friday. To enter, request a key from Room 208, Martha Van Rensselaer Hall, the office for the Department of Textiles and Apparel.



Adriana Rovers/University Photography
Seniors Sigrid Benedetti, left, and Sarah Taylor pose with the exhibition they helped put together in 317 Martha Van Rensselaer Hall.

Saturday or Sunday matinees (\$3.50). Films are held in Willard Straight Theatre except where noted.

Thursday, 6/13

"Babe" (1995), directed by Chris Noonan, with James Cromwell and Magda Szubanski, 7:15 p.m.

Friday, 6/14

"To Die For" (1995), directed by Gus Van Sant, with Nicole Kidman and Matt Dillon, 9:15 p.m.
"Babe," 7:15 p.m.

Saturday, 6/15

"Crumb" (1995), directed by Terry Zwigoff, with R. Crumb, 9:15 p.m.
"Babe," 7:15 p.m.

Sunday, 6/16

"Babe," 7 p.m.

Monday, 6/17

"Salt of the Earth" (1954), directed by Herbert Biberman, with Rosaura Revueeltas and Juan Chacon, 7:15 p.m.
"Crumb," 9:30 p.m.

Tuesday, 6/18

"To Die For," 9:30 p.m.
"Crumb," 7 p.m.

Wednesday, 6/19

"To Die For," 7:15 p.m.
"Crumb," 9:30 p.m.

Thursday, 6/20

"Leaving Las Vegas" (1995), directed by Mike Figgis, with Nicolas Cage and Elizabeth Shue, 7:15 p.m.

"Frisk" (1996), directed by Todd Verow, 9:45 p.m.

graduate bulletin

- Move to Caldwell:** The Graduate School offices have moved from Sage Hall to Caldwell Hall.

- Dissertation and Thesis Seminars:** Will be held in Room 100, Caldwell Hall. The master's thesis seminar will be on June 17, 3 p.m. The Thesis Adviser will discuss preparing and filing theses and dissertations; students, faculty and typists are encouraged to attend.

- August degrees:** Aug. 23 is the deadline for completing all requirements for an August degree, including submitting the thesis/dissertation to the Graduate School.

- Orientation Volunteers:** Volunteer as a graduate advisor for Graduate Orientation Week, Aug. 21-31. Interested graduate and professional students should contact Victoria Blodgett, manager of the Big Red Barn Grad Center (254-4723 or vab2@cornell.edu).

- Summer registration:** Forms for summer graduate registration are available starting May 13, at the Graduate School information desk, first floor, Caldwell Hall. The summer period began on May 20. Student ID and in-person registration are required. Students must register if they are 1) receiving financial aid during the summer (such as

fellowships, summer loans, assistantships, travel grants or tuition awards); 2) wish to use campus facilities during the summer; or 3) are off campus but need to be registered for summer study. Graduate students who have been registered for a regular semester during the preceding academic year do not pay tuition for non-credit summer registration. Students approved for summer residence credit must pay the appropriate pro-rated Graduate School tuition rate. Tuition must be paid for summer courses taken through the School of Continuing Education and Summer Sessions.

religion

Sage Chapel

Sundays at 11 a.m. (when university is in session). Addresses by guest representatives of all faiths. University organist is William Cowdery.

African-American

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

Baha'i Faith

Fridays, 7 p.m., firesides with speakers, open discussion and refreshments. Meet at the Balch Archway; held in Unit 4 lounge at Balch Hall. Sunday morning prayers and breakfast, 7 a.m.

Catholic

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

Christian Science

Sundays, 10:30 a.m., First Church of Christ Scientist, University Avenue at Cascadilla Park.

Testimony meetings sharing healing through prayer and discussion every Thursday at 7 p.m., Founders Room, Anabel Taylor Hall. For more information see <http://www.msc.cornell.edu/~bretz/cs0.html>.

Episcopal (Anglican)

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

Friends (Quakers)

Sundays, 11 a.m., meeting for worship in the Edwards Room of Anabel Taylor Hall. Discussions most weeks at 9:50 a.m., 314 Anabel Taylor Hall.

Jewish

Saturday Services: Orthodox: 9 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.

Sri Satya Sai Baba

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

Zen Buddhist

Tuesdays, 5 p.m.; Thursdays, 6:45 p.m., chapel, Anabel Taylor Hall.

seminars

Animal Science

"Sexual Dimorphism of the Somatotropic Axis of Growing Lambs," Dr. Kathryn L. Gatford, Dept. of Agriculture, Victoria, Australia, June 18, 12:20 p.m., K.L. Turk Seminar Room, 348 Morrison Hall.

miscellany

Alcoholics Anonymous

Meetings are open to the public and will be held Monday through Friday at 12:15 p.m. and Saturday evenings at 5 p.m. in Anabel Taylor Hall. For more information call 273-1541.

Cornell Business Services Product Show

Wednesday, June 19, 10 a.m.-3 p.m., Lynah Rink.

Cornell Savoyards

Accepting applications for dramatic, music and technical directors to direct fall production of Gilbert & Sullivan's comic operetta *Yeoman of the Guard*. A favorite of many G&S followers, the show is packed with beautiful music and entertaining characters. Honoraria offered. 257-0496.

Emotions Anonymous

This 12-step group that helps people deal with emotional problems meets for a discussion meeting on Sundays at 7:30 p.m. and a step meeting on Tuesdays at 8 p.m. at the St. Luke Lutheran Church, 109 Oak Ave., Collegetown. 387-0587.

Health Education

Lunch-time Meditation: Guidance in diverse approaches including some gentle movement. Wednesdays through July 10, 12:15-1 p.m., Founder's Room, Anabel Taylor Hall, open to all.

Johnson Museum

"Creating Character," a drawing workshop with David Estes. Working from the museum's collection and considering aspects of the theater, students will draw figures with attention to creating character. Fridays, June 7-28, 3-5 p.m. Fees \$46 members/\$50 non-members, 255-6464.

Mann Library

Mann Library computer workshops are free to the Cornell community and are held in the Stone 1 Microcomputer Center. Call 255-5406 or e-mail: <mann_ref@cornell.edu>. Design Your Own Web Page: June 13, 11 a.m.-1 p.m.; Managing Your References Using Endnote: June 13, 9-10:30 a.m. **Note: All classes are filled as of 6/11.**