

CORNELL Chronicle

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Trustees discuss SUNY tie; reaffirm need-blind admissions

By Jacquie Powers

President Hunter Rawlings opened last week's board of trustees meeting by noting that much of the day's discussion would focus on three important university partnerships: relations with the State University of New York, with the city of Ithaca and with New York Hospital.

And three key members of those partnerships came to the meeting Friday at the Herbert F. Johnson Museum of Art to address the trustees. SUNY Chancellor Thomas A. Bartlett, SUNY trustee Edward F. Cox and Ithaca Mayor Alan Cohen each addressed the board about the changing nature of their partnerships with the university and participated in discussions with board members eager to help define, forge and renew ties.

In addition, the trustees voted unanimously to reaffirm the university's need-blind admissions policy — which guarantees admission to students regardless of their ability to pay the full cost of their education —

but deferred adopting new tuition rates for the statutory colleges due to the state budget stalemate.

Rawlings noted that Cornell and SUNY officials have been working over the past months to improve relations between the two entities. Those relations have been strained by differing views over funding of Cornell's four state-supported colleges (the College of Human Ecology, the College of Agriculture and Life Sciences, the School of Industrial and Labor Relations and the College of Veterinary Medicine). SUNY, which has 64 campuses, is facing a proposed \$98 million funding cut for the next fiscal year.

The discussions with Cornell center around what Cornell's share of that cut should be and how the 50-year-old partnership should be defined in light of state finances and the changing state higher-education environment. Cornell's state appropriation has been reduced \$21.6 million over the past seven years, with a loss of 300 state-funded positions.

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Adriana Rovers/University Photography
SUNY Chancellor Thomas A. Bartlett addresses the board of trustees during its March 29 open session, while trustee Chairman Stephen Weiss, left, and President Hunter Rawlings look on.



Adriana Rovers/University Photography
From left, trustee Peter G. Ten Eyck II, emeritus trustee Earl R. Flansburgh and Ithaca Mayor Alan Cohen listen to speakers at the board's open session March 29 in the Herbert F. Johnson Museum of Art.

Trustees briefed on state budget delay, residential policy

By Jacquie Powers and David Stewart

The New York state budget stalemate has caused delays in several areas of university operations, members of Cornell's Board of Trustees learned at committee meetings last week.

The lack of a state budget continues to have a negative impact on timetables for State University Construction Fund (SUCF) projects at Cornell. In its meeting March 28, the Buildings and Properties Committee learned that projects worth several millions of dollars continue to be delayed until a state budget is adopted.

Members of the Land Grant and Statutory College Affairs Committee were told they would not know the full extent of the proposed reduction of the state appropriation for the statutory colleges, and therefore would not be able to enact statutory college tuition rates for 1996-97, until the state budget is approved.

By law, the state budget must be in place by the start of the new fiscal year, April 1, but historically that deadline has not been met. Earlier this week, the Legislature enacted a temporary, one-month spending plan until a final budget could be negotiated.

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Research shows the role of the fetus in 'deciding' its birth date

By Roger Segelken

Further proof that the fetus monitors its developing systems and "decides" when it is ready to be born comes from studies of rhesus monkeys conducted by pregnancy researchers at Cornell's College of Veterinary Medicine and Mt. Sinai Medical School and reported in the journal *Nature Medicine* (April 1996).

The finding is said to help explain the causes of premature labor and may lead to better care of women who go past their normal due dates.

"The possibility that, in normal human pregnancy, it is the fetal brain that controls the duration of pregnancy is an exciting one," said Dr. Peter W. Nathanielsz, leader of the androgen study and director of the Laboratory for Pregnancy and Newborn Research in the College of Veterinary Medicine.

When unborn rhesus monkeys receive additional amounts



Nathanielsz

of the steroid hormone androgen, which is normally produced by their adrenal glands, that sets off a chemical chain reaction through the placenta to the mother's blood, resulting in premature labor and live delivery of healthy babies, the researchers demonstrated.

Earlier studies by the Cornell researchers had shown a similar link in pregnant sheep, although with a different hormone produced by the fetus, and they now believe that androgen is the chemical messenger in human births.

"These studies demonstrate remarkable parallels between the regulation of the onset of labor and delivery in sheep and in primates," Nathanielsz said. "We now believe that the precise timing of normal delivery in pregnant women is likely to be under the control of increased fetal adrenal activity."

Nathanielsz, who is the James Law Professor of Reproductive Physiology in the College of Veterinary Medicine, described how the fetal sheep brain monitors intrauterine conditions and signals the onset of labor in the medical literature in 1991 and in the popular book *Life Before Birth, The Challenges of Fetal Development*. In the case of sheep, which is a widely used model of pregnancy, a small group of nerve cells in the fetal brain was found to play a central

role in signaling the start of birth. The cell group, called the paraventricular nuclei, controls the function of the fetal lamb's adrenal gland by initiating signals that stimulate the fetal adrenal to produce more of the hormone cortisol.

Cortisol then circulates in the fetal lamb's blood to the placenta where it "instructs" the placenta to produce more estrogen. The estrogen stimulates maternal systems that cause both the uterus to contract and the cervix to dilate, allowing delivery of the young.

"It's an elegantly designed system that allows the fetal brain to regulate the duration of pregnancy and to match the baby's own maturation to the time of its own delivery," Nathanielsz said. "But the question remains: Do similar mechanisms occur in human pregnancy? It would be surprising if fetal sheep were capable of such excellent control over their destiny while primates, including humans, do not utilize some similar mechanism."

So the researchers turned to a primate species, searching for the chemical signal that prompts estrogen to rise in the mother's blood at the end of pregnancy.

"While cortisol from the fetal adrenal in sheep instructs

Continued on page 2

BRIEFS

■ **Town meeting:** President Hunter Rawlings and Vice President Susan Murphy will attend a town meeting to address issues of concern to the lesbian, gay and bisexual community at Cornell on Thursday, April 11, from 6 to 7 p.m. (refreshments at 5:30 p.m.), in the David L. Call Alumni Auditorium in Kennedy Hall.

■ **Awards information:** The *Chronicle* will publish a sampling of student and faculty awards in its commencement issue, May 23. Please send via campus mail information about awards and their recipients for inclusion by Friday, May 10, to: Awards, Cornell Chronicle, 840 Hanshaw Road.

■ **Coffee, tea or espresso:** The Statler Grind, a student-run espresso bar, is open for business Monday through Friday from 8:30 to 10:30 a.m. in the Statler Hall atrium. Frequent customers are invited to join the Grind's Cupping Club, which offers specials for free espresso and pastry. The Grind also offers catering service to the Cornell community for conferences, morning receptions, student organization meetings and fraternity and sorority functions. The Grind's student managers are seniors Ted Keilholz, Robert Wong and Alan Florendo.

■ **Gardening plots:** People who are interested in volunteering to help provide gardening opportunities for the Ithaca and Cornell communities can come to the annual meeting of The Cornell Garden Plots Committee on April 10 at 7 p.m. in the Morrison Room of Corson/Mudd halls at Cornell, or they can write to P.O. Box 871, Ithaca, N.Y. 14851.

Housewarming



Adriana Rovers/University Photography
Joseph Holland '78, left, commissioner of the New York State Division of Housing and Community Renewal, talks with Neil Giacobbi '96, right, founder of The Partnership, a student-managed service agency, and Sue Perigut, development coordinator for Ithaca Neighborhood Housing Services (INHS). Holland, who is also a Cornell trustee, was visiting the INHS open house at 532 Spencer Road on March 29. Giacobbi's group supplies student volunteers for non-profit agencies, such as INHS, which works to rebuild housing for low- and moderate-income residents.

NOTABLE

Charles Trautmann, Sciencenter executive director and Cornell adjunct professor of civil and environmental engineering, has received the 1996 Engineer of the Year award from the New York State Society of Professional Engineers. The award is made annually to a registered professional engineer for community service, service to education and professional achievement. Trautmann was cited for his leadership in managing a \$1 million volunteer construction effort to create the Sciencenter in Ithaca, as well as his record of professional publications and his service to the Cornell student chapter of the American Society of Civil Engineers.

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Alumna addresses preservation at Old House Fair

By Dennis Shin '96

Noted preservationist and Cornell alumna Joan K. Davidson '48 will join Ithaca and Tompkins County in celebrating the area's architectural history April 12-13, as Historic Ithaca sponsors its fourth annual Old House Fair to be held at various locations throughout downtown Ithaca.

Centered around the theme "Making Preservation Work in the Real World," the two-day event will feature seminars April 12 at the Clinton House and a trade show April 13 at the Women's Community Building. Designed as an educational forum, the fair will emphasize the importance of the preservation and maintenance of older buildings.

An Arts and Sciences graduate and former New York state commissioner of parks, recreation and historic preservation, Davidson will deliver the keynote address April 12 at 7 p.m. at the Unitarian Church, 306 N. Aurora St. Organizer of the Rural New York Program, Davidson currently directs the J.M. Kaplan Fund's Furthermore Program, which benefits projects related to



Davidson

issues of restoration. Last year, the New York Landmarks Conservancy honored Davidson with its Lucy G. Moses Preservation Award, and *Historic Preservation* magazine recently hailed the New York resident as an innovator in the field of historic preservation philanthropy.

Davidson will join various speakers from across the Northeast who will address such topics as the National Register Program, preservation and economic redevelopment. From a panel discussion on financing old house projects to a gallery display of old houses for sale, a diversity of exhibits in the trade show will demonstrate products and services for "historically sensitive renovation." In addition, Charles Pomada, the "Old House Doctor," will prescribe remedies for residents of ailing older houses, and educational seminars will be offered for both children and adults.

The fair also will feature a tour of the Llenroc mansion which currently houses Cornell's Delta Phi fraternity. Built in 1875, a year after the death of Ezra Cornell, the local landmark is listed on the National Register of Historic Places and stands as a classic example of Gothic Revival architecture.

Besides the Old House Fair, Historic Ithaca also hosts garden tours, house tours and graveyard tours throughout the year. Each May, the organization, which is located at the Clinton House on North Cayuga Street, holds its annual meeting at which preservation awards are presented to members of the Ithaca-Tompkins County community.

"Historic Ithaca is dedicated to the preservation of our architectural heritage," said Molly Adams, a volunteer who assists in the coordination of the Old House Fair. "We are interested not only in buildings but the built environment."

Tickets for the upcoming Old House Fair are \$40 for non-members, \$20 for members, and special rates are available for students or those who participate in selected events.

Role of the fetus *continued from page 1*

the placenta to produce more estrogen (from progesterone produced by the placenta), primates needed to adopt a different strategy," the reproductive physiologist said. The placenta in primates produces estrogen directly from androgen, the steroid hormone produced in large amounts at the end of pregnancy, he explained.

The physiologists repeated the sheep experiments with pregnant rhesus monkeys substituting androstenedione, a powerful androgen known to be rapidly converted to estrogen by the monkey placenta. They hoped to answer two questions: Will the fetus deliver early if extra androgen causes the placenta to produce more estrogen? And, if estrogen production is increased in the placenta following the infusion of androgen, will this increase in estrogen produce live delivery with all the essential steps that normal delivery involves?

'The possibility that, in normal human pregnancy, it is the fetal brain that controls the duration of pregnancy is an exciting one.'

— Peter W. Nathanielsz

The answers: Yes and yes. Within two days, monkeys receiving androstenedione showed labor- and delivery-type activity (including the typical short periods of intense, contraction-like activity each night for several days) and live young were delivered — prematurely — within seven days. Control monkeys, which entered the study at the same point of gestation but received only an inert fluid without androstenedione, waited 17 days

for labor-type uterine contractions to begin and delivered after the 20th day.

This birth-signal mechanism makes excellent biological sense, Nathanielsz said. "It would be of great survival value if the fetal brain can act as a 'computer,' taking messages from several vital developing systems, such as lungs, kidneys and other parts of the brain, to compute the level of maturation and act accordingly."

But when something goes wrong in the computing and message-sending, results can be tragic. Fifty percent of human neonatal deaths and 75 percent of long-term neurological handicaps are the direct result of being born too small or too soon.

"Premature birth extracts an enormous toll from society," Nathanielsz said. "It is absolutely essential that we learn how these natural systems work and how to help when they don't."



Science promoter Bill Nye '77 speaks to undergraduate engineering students in Olin Hall March 27. At right, Nye examines a Cornell paperweight presented

to him by David Caughey, right, director of the Sibley School of Mechanical and Aerospace Engineering, who taught Nye.

Bill Nye '77 shows undergrads why he's 'The Science Guy'

By Larry Bernard

Part standup comic and part lecturer, part entertainer and part professor, William Nye returned to his alma mater last week and treated a roomful of undergraduate engineering students to an hour of wisdom and wit.

Imagine comedian Steve Martin teaching aerodynamics, and that is the sense of how Nye—known universally among 10-year-olds in this country as “Bill Nye the Science Guy”—kept undergraduates in rapt attention March 27 as he delivered a freewheeling “lecture” on the virtues of engineering. And that’s not so far-fetched, since he worked as an engineer by day and standup comic at night, and once won a Seattle-area Steve Martin look-alike contest.

Nye, a 1977 graduate of the Sibley School of Mechanical and Aerospace Engineering, now is the star and head writer of “Disney Presents Bill Nye the Science Guy,” a weekly, half-hour television series, designed with an MTV-like flair, to teach science to fourth-graders. With a trademark thumbs-up and the ubiquitous slogan, “Science Rules,” Nye dances through 30 minutes a week, teaching his TV audience many of the concepts he learned as a Cornell engineering student—“in this very room (155 Olin Hall),” he said. He was introduced by David Caughey, director of the Sibley School, who taught Nye aeronautics in 1976.

“We do a lot of stuff in real life that’s based on fundamental science,” he told the students, in delivering the serious part of his message. “It’s the fundamental stuff that sticks with you. And you never know what you’ll end up doing. Learn as much stuff as you can, and try stuff you like.” He added: “Every day I use my engineering skills. Every day something comes up.”

Like a lecturing professor, Nye drew diagrams of supersonic jet planes, upside-down pyramids and O-rings and



‘Every day I use my engineering skills. Every day something comes up.’

— Bill Nye

described the philosophy behind his show. But he always came back to the same point:

“You guys are really poised at a time when you can really make a difference. There are terrible problems facing our planet. These problems could devastate society. But at the base of them all is science. You guys are poised to—dare I say it?—delta the world!” he exclaimed, using the mathematical delta symbol for the word “change.” “And I’m not kidding.”

He told the students that “the campus is way better now than when I was here. When I was here, it was very stressful. The only records were Barry Manilow.” Then he hiked up his pants to where the legs were at flood length and said, “We’d go to parties and a guy would look at my pants and say, ‘You’re an engineer, aren’t you?’ I’d say ‘Yeah.’ And he’d say, ‘Well, can you fix the blender?’”

The answer, he said: plug it in and hold the outlet, then drop it in some water. “You had to know some science to know what would happen,” he said.

“Things in this country have really improved since I was in school,” Nye said. “There’s all this industry. You have amazing materials that we didn’t have 20 years ago. This is a very cool time. The country’s going to come out of this disco era of design.”

Nye said the three most important principles of his TV show are, in order: make money, have fun, “delta,” or change, the world. “This is the goal of the show. And I never worked harder in my life. Except when I was in school. Do you still have to work hard?”

The 40-year-old engineer/author/comedian/entertainer described how he got the idea for his television show. He was, he said, an engineer in Seattle and a volunteer at a children’s science center, where he noticed young people showing an interest. “The people who like science are young, much younger than you. Very young people were getting excited about science,” he said.

His flair for comedy had him writing for *Almost Live*, KING-TV’s late-night comedy show, while he was an engineer during the day, not completely happy with his daytime stint. One night, he heard a radio disc jockey talk about “gigawatts” but pronounce it with a soft “g,” like “jigawatts,” and Nye called to say it’s “gigawatts,” with a hard “g.”

“The DJ said, ‘Oh yeah, who are you?’ I said, ‘I’m Bill Nye . . . the science guy!’ I just blurted it out, and that was it. I really had a vision right then.”

Nye took questions and signed autographs, and he announced that he had applied to NASA to be an astronaut. Such, then, is the possibility, that future grade-schoolers will be simultaneously taught science and be entertained by a standup scientist-comedian who truly is out of this world.

Three faculty members named to Liberty Hyde Bailey professorships

By Blaine P. Friedlander Jr.

The College of Agriculture and Life Sciences has named George Casella, professor of biometrics, Dennis Gonsalves, professor of plant pathology, and Maureen Hanson,

professor of biological sciences, as the newest Liberty Hyde Bailey Professors.

Liberty Hyde Bailey was among the first of the truly supreme professors at Cornell. Bailey had been recruited to teach here as a professor in 1888 and brought the study of horticulture to the forefront. Until his death in 1954, he disseminated innovative horticultural research information. The professorship was created in 1972 to provide recognition for distinguished faculty within the College of Agriculture and Life Sciences who have national and international reputations in agriculture and related sciences.

Maureen Hanson

With research focused on mitochondrial genes and an international reputation in the field of male sterility in plants, Hanson also



Hanson



Gonsalves



Casella

teaches lecture and laboratory classes in organelle molecular biology and plant transformation. She is director of the Plant Sciences Center and coordinator of a federal interagency training grant in the molecular mechanisms of plant processes.

Hanson received her bachelor’s degree in botany from Duke University and her doctorate in biology from Harvard University. She joined Cornell’s Section of Genetics and Development in 1985, after a position as assistant professor in biology at the University of Virginia from 1979-85. Before that, she held a National Institutes of Health Postdoctoral Fellowship at Harvard.

Hanson is on the board of trustees of the American Society of Plant Physiologists and is on the Plant Genome Coordinating

Committee of the U.S. Department of Agriculture, where she served as panel manager for the National Research Initiative Plant Genome Program. She is a fellow in the American Association for the Advancement of Science and has served on a number of editorial boards of professional journals.

George Casella

For both the American Statistical Association and the Institute of Mathematical Statistics, Casella is among the youngest members ever elected as fellow in those organizations. Widely published in the field of statistics, he has just been elected editor of the prestigious *Journal of the American Statistical Association*.

Casella earned his bachelor’s degree from Fordham University, and his master’s and doctoral degrees from Purdue University in the field of mathematics and statistics. Before becoming professor in the Cornell biometrics unit, he was associate professor from 1983-89 and assistant professor from 1981-83. While at Rutgers University, he served as assistant professor of statistics from 1977-81.

He wrote the books, *Statistical Inference* (Wadsworth/Brooks Cole, 1990) with R. L. Berger; *Variance Components* (John Wiley and Sons Inc., 1992) with Shayle R. Searle

and Charles E. McCulloch; and the forthcoming *Theory of Point Estimation*, with E.L. Lehmann. In addition to his teaching and consulting duties in the College of Agriculture and Life Sciences, he is director of the doctoral program in environmental statistics.

Dennis Gonsalves

While serving New York’s fruit growers with effective research on threatening viruses, Gonsalves developed innovative ways to improve fruits and vegetables by a variety of traditional and molecular techniques. He has been on the frontier of using “cross-protection” and genetically engineered plants as a way to control plant viruses domestically and globally.

Gonsalves received his undergraduate and master’s degrees from the University of Hawaii. In 1972, he received his doctorate in plant pathology from the University of California, Davis. Prior to Cornell, he served as assistant professor and then associate professor of plant pathology at the University of Florida. He came to Cornell in 1977 and was promoted to professor in 1986.

In 1991, Gonsalves was named a fellow of the American Phytopathological Society. That year he was named Outstanding Alumnus for the University of Hawaii’s College of Tropical Agriculture and Human Resources.

CORNELL RESEARCH

Metallic hydrogen may result in high-temperature superconductor

By Larry Bernard

If hydrogen molecules could be pressured into transforming themselves into a metallic phase, would that material be a useful high-temperature superconductor?

A Cornell theoretical physicist posed just such a scenario in 1968. Now, almost 30 years after surmising it, he may be proved right.

"Suppose hydrogen could be a metal," said Neil W. Ashcroft, the Cornell physicist who speculated on this case, "would it have properties that would distinguish it? I proposed that, yes, lone among the elements, it could be a high-temperature superconductor."



Ashcroft

But it took the explosive power of a two-stage gas gun, originally developed for weapons research at the Lawrence Livermore National Laboratory in California, to come up with what may be proof of Ashcroft's model. Scientists at Livermore and Ashcroft reported March 21 at the meeting of the American Physical Society (APS) in St. Louis that they have achieved metallic hydrogen in a form proposed by Ashcroft.

"This has been the holy grail of high-pressure physics," said Ashcroft, a scientist in Cornell's Laboratory of Atomic and Solid State Physics and former chair of the APS Division of Condensed Matter Physics. "We have been after this since the first predictions of a metallic form of hydrogen were made by Eugene Wigner and

Hillard Huntington in 1935."

The study of hydrogen as a metal is crucial for condensed matter physics. As a low-temperature liquid, it is an insulator. But as a high-density metal, it could be a viable superconductor, which could carry electricity with no or little resistance. At high temperatures, it could be used in applications where heat is generated, such as in controlled fusion for an abundant energy supply. The understanding of dense hydrogen would help in understanding the dynamics of Jupiter, for example, which is thought to have an abundant supply of hydrogen in metallic form.

"Hydrogen is a major player in the universe," Ashcroft noted. "It's very basic to physics and astrophysics. Understanding it in its metallic phase is critical to understanding planetary interiors." If this notion of its properties announced by the Livermore team is correct, then astrophysicists may have to change their models of the internal constitution of Jupiter, and thus, the basic ideas about how the gaseous giant planets formed.

The Livermore experimental physicists — William J. Nellis and Samuel T. Weir — a Cornell graduate — used extremely high pressures to squeeze hydrogen to about 1.4 million atmospheres at very high temperatures — about 4,000 degrees Kelvin. Their methods have proved accurate in the past for probing properties of physical matter. (One atmosphere is the equivalent pressure at the surface of the Earth.)

They found that in the metallic phase, even if just for an instant before the sample was destroyed, the hydrogen molecules appeared to ionize but remain paired. That means they formed what is called a paired metal, where the ions pair up and cannot be

broken apart. In other metals, the crystal structures are usually based on single ions. But that appears not to be the case with hydrogen. "It's very tightly bound. It's a very strange effect. I thought it might be possible 28 years ago and the experimentalists say that they are seeing it now," Ashcroft said.

Another method of achieving high pressure is by squeezing a sample between a very hard surface but not destroying it — known as a diamond-anvil technique. Arthur Ruoff, Cornell professor of materials science and engineering, routinely has squeezed hydrogen to 2.5 million atmospheres — (the pressure at the center of the Earth is just over 4 million atmospheres) — but without the high temperature needed to get the sample to convert into a metal.

"The whole theoretical effort at Cornell has been to look at low-temperature properties of dense hydrogen," said Ashcroft, who wrote a recent review paper in *Physics World* (July 1995, p. 43) describing in part the difficulties in achieving metallic hydrogen.

Byard Edwards, Cornell doctoral student in Ashcroft's group, has been looking at paired state for several years. "We can now say that hydrogen is likely to remain paired in its low-temperature, high-density state," Ashcroft said. "We're on the right track; that's nice to know." Edwards presented a paper at the APS meeting on these studies.

These ionic pairings exist at pressures equal to more than 2 million atmospheres. "This is a fundamentally new way of looking at metal," Ashcroft said. "It seems to remain a paired metal, even in the high-temperature liquid state. The robustness of this bond in quite extreme conditions is really quite remarkable."

Superfluids, aerogels show promise for exotic, unusual material

By Larry Bernard

In Cornell's Laboratory of Atomic and Solid State Physics, scientists are artificially inducing disorder where none occurs naturally, in one of the most unusual states of matter ever created — superfluid helium-3. This fluid is in a unique state that allows it to flow without resistance. Understanding its properties in this disordered state could help understand the basic mechanism of high-temperature superconductivity.

In work led by Jeevak Parpia, Cornell professor of physics, researchers are using aerogels — weblike structures of glass almost as light as air — to change the properties of the liquid helium-3. "This is a unique opportunity to alter the fluid's properties," Parpia said. "In the past, confinement in a variety of powdered materials or even between closely spaced slabs has led to a rapid breakdown of the superfluidity of the helium-3."

But, in work at Cornell, Northwestern University and



Parpia

Pennsylvania State University, small cubes of aerogels are creating new possibilities. Among them: that superfluids can be tailored by the addition of a few percent of a glassy material.

Parpia and a doctoral student in his lab, James Porto, described some of their work at the American Physical Society annual meeting March 19 in St. Louis.

"The aerogel may be a means of introducing controlled amounts of disorder. If correct, aerogel and helium-3 represent a unique opportunity to understand the role of disorder in condensed matter, with implications spanning magnetism and high-temperature superconductors," Parpia said.

Superconductors are materials in which electricity, or charge, flows without resistance. Similarly, superfluids are fluids that flow without resistance. Cornell scientists in the 1970s, led by Robert Richardson and David Lee, both still professors of physics at Cornell, discovered this more exotic form of superfluidity in the helium-3 isotope when cooled to a temperature of only 2 1/2-thousandths of a degree above absolute zero.

The problem with studying this lab-created material is that it is self-purifying — nothing added to it seems to perturb its properties, thus limiting its utility as a model system. But former Cornell graduate student Moses Chan, now at Penn State, found in recent

experiments that aerogels could be a useful material with which to study helium-3 and its more common isotope, helium-4. Parpia and Porto first observed that helium-3 in aerogel was "strikingly different" from the same material in bulk form, Parpia said. Northwestern researchers, led by William Halperin, a former Cornell graduate student, also found similar results and identified the state of the superfluid. The superfluidity of helium-3 in aerogel was "a great surprise," which the researchers from both groups reported in *Physical Review Letters* (Vol. 74, p. 4667, 1995; Vol. 75, p. 661, 1995) last year.

The most recent Cornell findings, which are preliminary, show some unexpected features in the flow of helium-3 in a magnetic field. But these are different from results recently seen at Northwestern, where Halperin found the magnetic field seemed to inhibit superfluidity. Experimental and theoretical physicists now are working to sort out this discrepancy.

"However, these observations, taken together with new theoretical work, all point to new possibilities for the superfluid," Parpia said. "The implications are still being sorted out by the scientific community, but it is true that aerogels, seemingly an insignificant class of materials, can alter the properties of one of the most exotic and unusual states of matter created in the laboratory."

CU research helps Romanians reduce pesticides in apple orchards

By Blaine P. Friedlander Jr.

To help reduce pesticide use in European apple orchards, growers in Romania can now grow scab-free fruit without having to rely entirely on chemical solutions.

Thanks to cooperation between Romanian scientists, Cornell and the university's Agricultural Experiment Station in Geneva, N.Y., the scientists started a project to grow scab-free apple varieties developed by Romanian apple breeders to resist the scab, which causes a rough-shaped lesion on the fruit.

"Because for centuries they have been growing fruit like pears, plums and apples, the Romanians are inherently good horticulturists," said Harvey Reissig, professor of entomology and a researcher at the Agricultural Experiment Station. He is one of

five Cornell scientists offering assistance. "Since they are experienced, it's fairly easy to translate our information to them."

By using a strategy known as integrated pest management (IPM), U.S. scientists have been able to show that apples can be grown using lesser amounts of pesticide.

Through international cooperation, Western scientists met with Romanian agriculturists and began a program that would bring essential help. The program is "Small Scale, Sustainable, IPM and Production Systems for Apples in Romania," a cooperative project among Cornell, the U.S. Department of Agriculture and the University of Massachusetts, which is reported in the latest issue of *New York's Food and Life Science Bulletin* #146, published in February. The project was funded by the USDA's Office of

International Cooperative Development.

Other Cornell scientists participating in the project include: Arthur Agnello, associate professor of entomology; Joseph Kovach, fruit IPM coordinator; Terence Robinson, associate professor of horticulture; and Wayne Wilcox, associate professor of plant pathology.

Romania grows more than 240,000 acres of apples, making it one of the top apple-producing countries in the world. The large government orchards are being broken up, thus many of the country's small farms lack the desperately needed financial resources to purchase new equipment or even to buy critical pesticides. The potential of losing their crop to the apple scab became a problem.

Apple scab, insect and mite pests are more difficult to control in Romania than in

commercial orchards in the United States. The Western scientists learned that most homes in the country's Curtea de Arges region have a few apple trees that had never been sprayed for pests.

Reissig reports that newer, environmentally friendly compounds not yet available to growers in the United States are commonly used in Europe and are registered for use on apples in Romania. He also said that Western scientists also gain experience working with small-scale, sustainable environments.

Successfully battling apple pests is only part of the problem; gaining consumer acceptance is another part. Romanian consumers currently enjoy the Delicious, Golden Delicious, Rome and the Jonathan apples, and have yet to try the new scab-free varieties.

Kalos tells Congress benefits of high-performance computing

By Larry Bernard

Many of the large problems that confront society are multidisciplinary, and high-performance computing can contribute in essential ways to their solution, Malvin H. Kalos, director of the Cornell Theory Center, told a congressional panel last week.

These problems, Kalos said, cross the boundaries of any one science and must be approached through systematic connections that supercomputing allows.

"Issues of the environment and medicine, to cite only two, involve many sciences — chemistry, physics, engineering, fluid flow, biology and materials," Kalos testified. "Bringing the knowledge from these fields together to make quantitative predictions about the effects of some technological proposal would be utterly impossible without the use of high-performance computational modeling, the indispensable natural language of quantitative multidisciplinary research."

Kalos testified March 19 before the Subcommittee on



Kalos

Basic Research of the U.S. House Science Committee, which held hearings on the past and future of the four national supercomputing centers and National Science Foundation (NSF) support of those centers. The subcommittee is chaired by U.S. Rep. Steven Schiff (R-N.M.) and includes Rep. Sherwood Boehlert (R-N.Y.).

Also testifying were the directors of the three other national centers, at Champaign-Urbana, Ill., San Diego and Pittsburgh; Paul Young, NSF assistant director for computer and information science and engineering; Ed Hayes, chair of the committee that made recommendations for a new NSF program; and users of supercomputing.

The NSF is proposing a new program to replace the current one, which began in 1985. The new program, Partnerships for Advanced Computational Infrastructure, builds on and replaces the current program and offers flexibility and continued excellence to meet the nation's need for high-end computing, according to the NSF. But it also requires the four current NSF-supported centers to enter a competition in which only three will survive.

"Computational science is now also an essential tool in experimental science," Kalos told the oversight panel. "The most advanced scientific instruments, optical and radio

telescopes, particle accelerators and computers themselves are studied, designed, optimized and verified with computer simulation. Data collection is usually automated, and the reduction to comprehensible data sets or conceptual models may involve enormous computations.

"Now the entire scientific and engineering community of the country has the opportunity to exploit the new tools of computational science," he said.

Kalos said new high-performance computers require a "major retooling of software and algorithms," which the Theory Center is equipped to provide. In response to the new NSF program, the Theory Center is creating a National Alliance for Advanced Computational Infrastructure.

This alliance will comprise a new network of cooperating organizations around the nation that are of "worldclass stature in scalable computing; in related technologies, such as virtual reality and computer graphics; in all areas of computer science that relate to parallel computing; in computational mathematics; in forefront applications," he said.

Kalos concluded: "It will transform our program into something quite new, something that will serve the best interests of the community devoted to computational science and the broader community of research in basic science."

Very late for breakfast



Adriana Rovers/University Photography

The oldest creature to receive a CAT scan at the College of Veterinary Medicine, a fossilized dinosaur egg believed to be at least 70 millions years old, is adjusted by David Griffing, director of education at the Paleontological Research Institution (PRI). Disappointingly, the scan revealed no discernible features of the ancient embryo. The egg from Argentina is on loan to PRI and will be on exhibit through May.

Vet open house will showcase animals, exhibits

Exotic animals, farm animals, companion animals, working animals and the medical care they receive will be showcased at the annual Open House of the College of Veterinary Medicine at Cornell, Saturday, April 13, from 10 a.m. to 4 p.m.

The Open House, now in its 30th year, is geared to families and school groups, pet owners and others interested in careers in veterinary medicine.

"This is our chance to share what we're learning about veterinary medicine and the animals we work with," said Brenda Godlewski, a second-year D.V.M. student and co-chair of the event, which is organized and hosted by current veterinary students.

Demonstrations of modern veterinary medical technology, the latest information on pet care and a baby farm-animal petting zoo are part of the self-directed tours through the college facilities. Other exhibits cover the river otter restoration project, sport fishing and K-9 dogs working in law enforcement. Students, faculty and staff will be on hand with information on education and careers in veterinary medicine.

The Veterinary Open House is scheduled rain or shine. Free parking is available in the "O" Lot between Route 366 and the veterinary college, where signs will direct visitors to Schurman Hall. Information on the open house is available at 253-3700.

Linowitz remembers friend and former CU classmate Edmund Muskie

By Jill Goetz

Former U.S. Sen. Edmund S. Muskie (D-Maine), a 1939 Cornell Law School alumnus who went on to serve as a secretary of state and to run for president, died on Monday, March 25, at Georgetown University Medical Center after suffering a heart attack following surgery to open a blocked artery in his leg. He was 81.

One of his friends and one of Cornell Law School's most distinguished alumni, Sol Linowitz, L.L.B. '38, said Muskie's political career came as a big surprise. "Never in a million years would I have imagined Ed becoming a U.S. senator," recalled the Cornell trustee emeritus, a former Xerox chairman who served as President Jimmy Carter's ambassador-at-large and President Lyndon B. Johnson's ambassador and U.S. representative to the Organization of American States.

"The fellow I first met [when both worked at the *Cornell Law Quarterly*] was a shy, diffident, quiet, insecure young man from Maine who was probably the last fellow in the law school you would have guessed would go into politics," said Linowitz, formerly senior counsel with the international



Muskie



Linowitz

law firm of Coudert Brothers in Washington and now honorary chairman of the Academy for Educational Development.

"We saw each other often in Washington, reflecting on the state of the nation. I spent a lot of time with him during his run for the presidency, and I remember how disappointed he was when he learned he would not get the nomination. He was ready to win, and he felt encouraged by all the polls," Linowitz added.

Muskie, Sen. Hubert Humphrey's vice presidential running mate in 1968, was widely considered a shoo-in for the Democratic Party nomination when he himself ran for the nation's highest office in 1972. But he lost the bid (to Sen. George McGovern,

D-S.D.) following a widely publicized incident in which he bitterly (many said tearfully) denounced the editor of the *Manchester (N.H.) Union Leader* for a series of disparaging editorials about him and his wife, Jane.

"The New Hampshire incident was the fatal blow to his candidacy," Linowitz said. "Ed always felt it had been misinterpreted."

Muskie, who Linowitz said many voters perceived as "this Lincolnesque, homespun, rawboned fellow," was "the consummate senator in many ways. He felt deeply about issues; he had strong compassion for those in need and for those who were in a position to benefit from government programs, in part because of his own background."

Muskie was born in Rumford, Maine, the son of an immigrant Polish tailor. After working his way through both Bates College and Cornell Law School, he returned to his home state in 1939 to set up a law practice but was soon diverted by World War II, serving in the Navy.

In 1946 he was elected to the Maine State Legislature and became governor in 1955—impressive feats in a state with a then-moribund Democratic Party. He served as governor until 1959, as U.S. senator from

1959 to 1980, and as secretary of state in 1980 and 1981 during the Iran hostage crisis. In 1981, he joined the New York-based law firm of Chadbourne & Parke, where he was a senior partner at the time of his death.

Muskie pioneered environmental protection laws, as chairman of the Senate Subcommittee on Environmental Pollution, and championed a responsible federal budget as chair of the Senate Budget Committee. Later he received the Presidential Medal of Freedom and the Former Member of Congress Distinguished Service Award. He also served on the Tower Commission, whose 1987 report was highly critical of the Reagan administration's management of the Iran-Contra affair.

Cornell Law School, where Muskie returned on several occasions, honored him in 1982 with its Distinguished Alumnus Award.

"Ed Muskie was a model of a truly committed public servant," Linowitz said. "He was a man of complete integrity, of selfless dedication and of deep convictions. He was also a modest man with a quiet humor. I once introduced him to an audience, and he rose and said, 'Now I know what a pancake feels like when it has syrup poured all over it.'"

CORNELL BOARD OF TR

SUNY tie *continued from page 1*

Bartlett told trustees that when Gov. Pataki appointed a group of new SUNY trustees last summer he gave the SUNY board a new mandate: to maintain SUNY's educational mission of access, quality and comprehensiveness, but to reduce costs dramatically.

To accomplish this mandate the board produced a report, "Rethinking SUNY," which recommends new flexibility and independence for SUNY campuses that would require legislative and regulatory changes.

Bartlett said that in this context, and in the context of the need for changing the face of higher education in the state as well as for cutting costs, Cornell and SUNY need to be closer, to know each other better. "We have enormous common interests that need to be shared. . . . We have to start working together not just occasionally at the senior levels but at the operating levels at a lot of different points."

Several Cornell trustees criticized Bartlett for not stopping what they called public attacks in the media against Cornell by some SUNY officials, and asked whether it might not be time to sever the Cornell-SUNY relationship. Bartlett did not rule that out, but added, "Let's first see if we can capture the advantages there are in working as partners."

Cox, appointed last summer by Pataki to the SUNY board, sought Cornell's help in the SUNY restructuring task ahead, as well as Cornell's political muscle to achieve SUNY's legislative aims.

"We're going to need Cornell's support in getting new programs through the Legislature and in focusing on the much larger picture," Cox said.

He also asked for a renewed spirit of cooperation, saying, "If we're joined at the hip, it will not advance the cause if the twins . . . continue pummeling each other."

Cornell Chairman Stephen H. Weiss wrapped up the discussion. "We both agree the status quo is not acceptable to either side. . . . Most of all, we have to get to a place where we can all support each other with pride. We've made a beginning today."

Ithaca's new mayor said the city is at an important crossroads. He said he felt safe when he arrived in Ithaca to attend Cornell in 1977, but "Now I must fight for the community I call home."

He said that community, of which Cornell is a driving force, is facing the problems all communities face: drugs, weapons, economics, parochial attitudes. But, he added, he is optimistic about the future of the city and its relationship with the university. He said the new agreement signed between the city and university is a good foundation for the future growth of both, and he hopes to build on that.

"The city needs to diversify its economy. Higher education has always been the driving force in the local economy, and the city needs to help its largest employer. Also, the health of Cornell University is dependent on the health of the city and its surroundings," Cohen said. He said to be competitive the local economy must be diverse enough to provide jobs and housing and shopping for trailing spouses and families of faculty, students and employees.

He asked the university to continue to invest in Ithaca, through venture capital funds, transfer of technology, low-interest mortgages and job training programs.

Trustees expressed interest in Cohen's ideas, particularly in the venture capital funds and in housing issues, and thanked him for reaching out to the university as a welcome partner.

In reporting on the partnership between the Cornell University Medical College in Manhattan and New York Hospital, Rawlings noted that it's a volatile time nationwide for the health-care business. He said managed care is coming late to Manhattan but is penetrating the market very quickly and "causing great stress and strain" on medical schools and their affiliated hospitals.

He said Cornell is working on new alliances to assure sufficient research and clinical facilities for its students and continued, critical revenues from its physicians' practices. Those include continued discussion between Cornell and its affiliate, New York Hospital, and three-way discussions with Cornell, North Shore University Hospital and New York Hospital.



New undergraduate student-elected trustee Julie Chon, second from left, attends her first board of trustees meeting last week in the Johnson Museum. Joining her, from left to right, are Phillip McPheron, graduate programs/assessment coordinator for Campus Life; Inge Reichenbach, vice president for alumni affairs and development; and Susan Murphy, vice president for student and academic services.



Board Chairman Stephen Weiss, right, and President Hunter Rawlings answer media questions about the two-day board of trustees meeting at a news conference in the Johnson Museum March 29.

Photographs by
Adriana Rovers
University Photography

Periodic Review Report

By Jacquie Powers

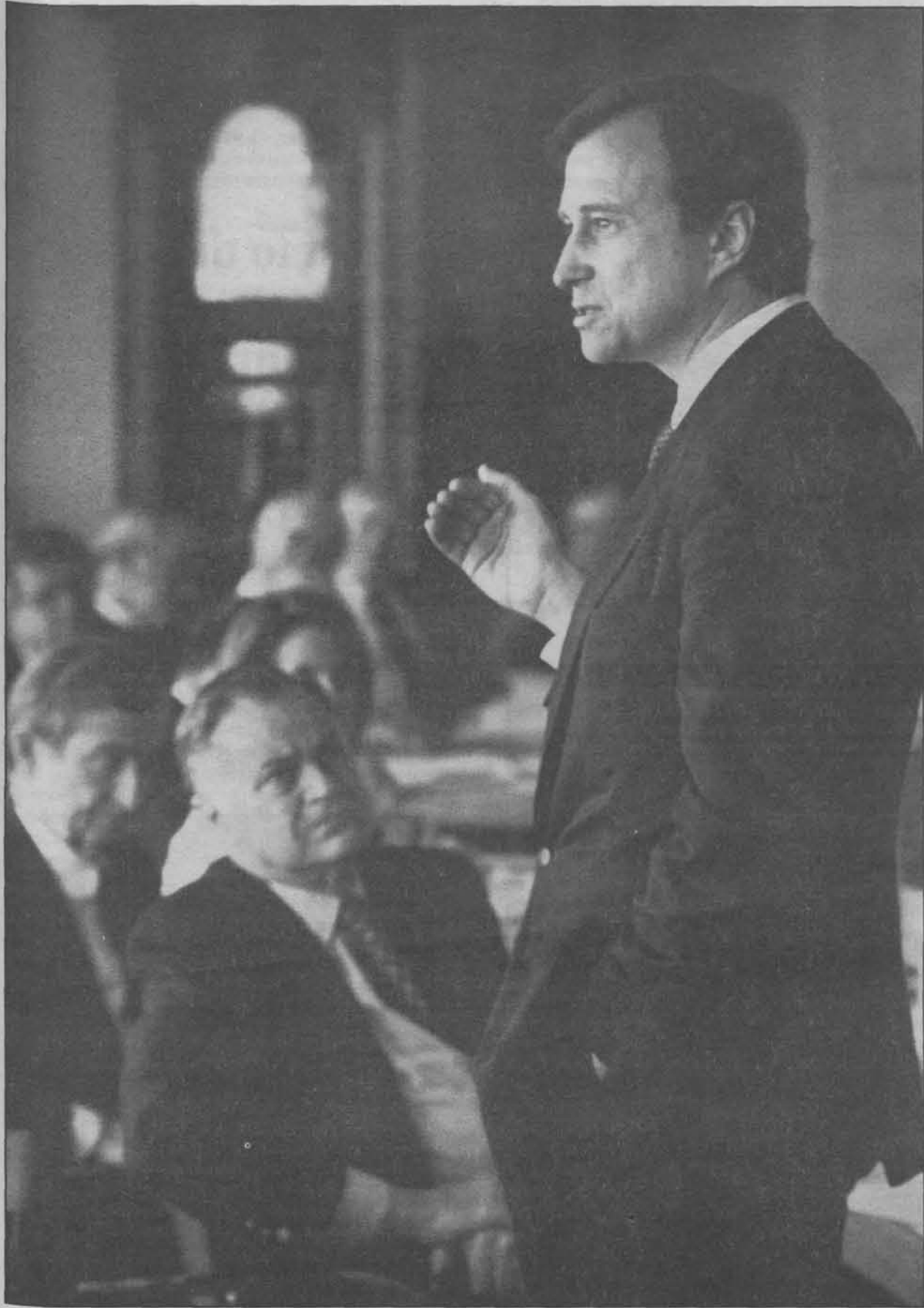
The final version of Cornell's Periodic Review Report (PRR), required as part of the routine cycle of university reaccreditation activities, was approved unanimously by the board of trustees at its regular meeting last week.

The university is required to submit a PRR at the midpoint of the 10-year reaccreditation cycle. The report, due in June, is required of all post-secondary institutions under the jurisdiction of the Middle State's Association Commission on Higher Education (MSA/CHE).

The PRR will be the basis for the commission's deliberations on the continuation of Cornell's accreditation status. Most recently, Cornell was "reaccredited without condition" following a self-study site visit in 1991.

Ronald G. Ehrenberg, vice president for academic programs, planning and budgeting, chairs an oversight group that

TRUSTEES – MARCH 28, 29



SUNY trustee Edward F. Cox, with Cornell trustees, from left, Ronald P. Lynch and Harold Tanner looking on, addresses questions about the relationship between SUNY and Cornell at the university's board of trustees open session March 29. Also addressing the board was SUNY Chancellor Thomas Bartlett.

Trustees briefed *continued from page 1*

There was good news on one SUCF project at the March 28 meeting: the addition to Mann Library. Bids came in at \$16,779,000 – about \$2 million below estimates.

Sarkisian Brothers Construction of Binghamton is expected to begin the project this summer, pending adoption of the state budget. A World Wide Web page has been established for the Mann Library project and can be reached at <http://www.mannlib.cornell.edu:80/~building/>.

The committee also reviewed a list of projects that is being submitted to SUCF for possible funding beginning in the 1997-98 fiscal year. The 137 projects – primarily renovations, rehabilitation, maintenance and repairs – total \$265 million, according to Gregg Travis, Cornell's state facilities project manager.

"Not all of the projects are going to get funded," Travis said, "but we are trying to get them into planning status for future years."

In other business, the Buildings and Properties Committee authorized the Sage Hall renovation project to proceed. In late March, a state Supreme Court judge ruled that two city of Ithaca boards had acted properly in approving the historic-renovation project. Preliminary site work on Sage Hall was set to begin April 2 with utility work and the placement of exterior structural supports. Asbestos removal will get under way in mid-May, after the building is vacated, said Eric F. Dicke, director of facilities planning. By the end of summer 1998, Sage Hall will be the new home of the S.C. Johnson Graduate School of Management.

Trustees also approved the design-development phase for renovations to Olive Tjaden Hall on the north end of the Arts Quad. The next step is preparation of construction documents for the project, which includes interior repair and renovation critical to the safety and integrity of the building, as well as meeting requirements of the Americans with Disabilities Act (ADA) and city historic-preservation standards.

At the Land Grant committee meeting last Thursday, Nathan Fawcett, director of statutory college affairs, told trustees that under the current state budget proposal, Cornell potentially could expect a \$3.9 million cut in funding to the statutory colleges. In addition, he said, the university would be expected to return to SUNY as much as \$2 million in increased statutory college tuition funds.

The committee and full board delayed action on setting statutory tuition because of the state budget delay. However, the proposed tuition rates currently receiving serious consideration for 1996-97 are \$9,050, up 6.6 percent, for undergraduate resident students, and \$17,670, up 7.35 percent, for undergraduate non-resident students.

Also on Thursday, Susan H. Murphy, vice president for student and academic services, briefed the Committee on Academic Affairs and Campus Life on the administration's Residential Communities Report. The report contains the administration's recommendations for a new campus housing policy designed to promote the broad educational mission of the university by uniting the intellectual and social lives of undergraduate students.

The recommendations were reported in the March 28 *Cornell Chronicle* and are available electronically at <http://www.sas.cornell.edu/rcc/index.html>. Comments may be directed to Murphy.

The report was presented to the full board March 29, and its overall goal and key principles are expected to be considered for approval by the trustees at their May meeting.

Key elements of the proposal include construction of a new residential facility; expanded faculty participation in residential programs; periodic review of those programs; a gradual shift to more upperclass participation in campus housing; a phased-in limitation on freshmen living in program and theme houses; and at least a five-year moratorium on new program and theme houses.

Trustees at both the committee meeting and the meeting of the full board praised the report, based on their initial briefing, for its reasoned, comprehensive, yet specific approach to housing problems that have plagued the university for decades.

for reaccreditation is approved by the board

has been working since early August to prepare the PRR. A draft version of the report was presented to the campus community for review and comment in November. The final version incorporates most of those comments.

Accreditation of a post-secondary educational institution by one of six regional accrediting agencies is a necessary prerequisite for institutions to receive federal funding. MSA/CHE is the regional accrediting agency for all post-secondary institutions in Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania, Puerto Rico, Republic of Panama and the Virgin Islands.

Cornell's PRR assesses where the university has been going over the past five years, analyzes the current situation and looks at where the institution is headed. In early May, MSA/CHE will notify Cornell of the two individuals, generally from peer institutions, who review the PRR. By Aug. 1, the reviewers will provide Cornell with a copy of their

analysis of the PRR. In early September, Cornell will submit its institutional response to the reviewers' analysis to MSA/CHE. In mid-September, the reviewers will give their confidential recommendation on continuing Cornell's accreditation status to MSA/CHE.

In October, MSA/CHE's PRR committee will analyze the reviewers' report, Cornell's response and the reviewer's confidential recommendation, and will formulate a recommendation on accreditation status to MSA/CHE's board. MSA/CHE's board will meet in November 1996 to act on the recommendation of the PRR committee, and Cornell will be notified of the result in December 1996.

Full text of the final Periodic Review Report (PRR) is available electronically at <http://www.ipr.cornell.edu/accreditation/prr1996.html>. Copies also are available from Michael Matier, associate director, institutional research and planning, 440 Day Hall, and at the Cornell libraries.

Astronomer James Houck is named to an endowed professorship

By Larry Bernard

James R. Houck, Cornell professor of astronomy, was named the Kenneth A. Wallace Professor in Astronomy on March 25.

Houck, who has been on the faculty since 1969, earned his Ph.D. here in 1967. He is an expert in developing optical and infrared instrumentation and techniques for observing astronomical sources.

Houck is principal investigator for the infrared spectrograph on NASA's Space Infrared Telescope Facility, which is scheduled for launch early in the new century. He



Houck

is a team member of the Wide-Field Infrared Explorer and is active in national science policy and funding issues. Also, Houck is principally responsible for Cornell having 25 percent of the observing time at the 200-inch Hale Telescope atop Mount Palomar in California. In exchange, Cornell researchers, led by Houck, design new instruments to be used at the facility. The

first such instrument, a combination thermal infrared camera and spectrograph, was delivered to Mount Palomar two years ago.

Houck also is an award-winning teacher, having earned the Clark Award for Distinguished Teaching at Cornell. Most recently, he helped develop a senior-level course on experimental techniques in astronomy.

"It was Jim's leadership that brought us into optical astronomy in a big way," Yervant Terzian, chairman of the astronomy department, said at a March 25 reception to announce the professorship. President Hunter Rawlings and Philip Lewis, acting

dean of the College of Arts and Sciences, also spoke at the reception.

The professorship is named for Kenneth A. Wallace, a 1960 Cornell graduate who studied philosophy. Now living in Phoenix, he has come to know the department through Friends of Astronomy, a group interested in supporting the department and learning about the field.

"There is an illiteracy in science in this country that scares me," Wallace said at the ceremony. "I would like to think that by endowing a chair, I am endowing a future to keep us on the edge of technology."

CU journal details D.C. cherry trees' early woes

By Larry Bernard

With cherry blossoms in bloom, more than half a million tourists descend on the nation's capital as they do every spring, capturing the beauty and serenity of the 3,500 cherry trees along the Tidal Basin and Washington Monument and Jefferson Memorial in Washington, D.C. Peak bloom is expected through April 9, with the annual, weeklong National Cherry Blossom Festival winding up today.

But when the cherry trees first arrived in 1910—a gift from Japan—there was little sense of beauty. Instead, the U.S. government burned them in a bizarre display that pitted federal bureaucrats against each other. The goal, according to a new article in a Cornell journal, was to prevent "ecological imperialism," with President William Howard Taft approving the final order in an effort to prevent Japanese insect pests from infesting America's plants.

Although new trees, certified by the Japanese government to be bug-free, arrived in 1912, the protectionists within the U.S. Department of Agriculture already had won their war, argues Philip J. Pauly, professor of history at Rutgers University, in an article published in the Cornell journal *Isis*, the journal of the History of Science Society (March 1996, pp. 51-73). Pauly's article, the cover story, is titled "The Beauty and Menace of the Japanese Cherry Trees." The journal is edited by Margaret W. Rossiter, the Marie Underhill Noll Professor of History of Science at Cornell.

The cherry tree incident is central, Pauly said, "to the American debate over the shape of what I call 'American ecological independence,' that is, what sort of control Americans would exert over the kinds of exotic plants and animals that could enter the United States."

Entomologists in the USDA wanted the trees destroyed, while botanists clamored to save them. "Here is a controversy within the USDA between those who wanted introduction and those who favored pest exclusion. This was an important moment in the biotic history of North America, in which humans started to control and manage what the flora and fauna ought to look like in this country in the future," Pauly said.

Pauly further extends the controversy to political, human and demographic policies toward Japan and



Smithsonian Institution

Cherry blossoms are blooming in Washington, D.C.

toward immigration in general. The same debates about protectionism, immigration, imperialism and national independence seen in this year's Republican presidential campaign were evident in bureaucratic debates almost a century ago.

"One sees parallels in the early 20th century between attitudes toward 'plant immigrants' and human immigrants. There was this feeling of nativism—only native plants should be here, just as some of this year's presidential candidates call for nativism protectionist immigration policies," Pauly said.

"For a century after the founding of the Republic, Americans had the same mixture of interest and distrust, and the same laissez-faire policy toward foreign humans as they did toward foreign plants and birds," he writes.

Nobelist to discuss ozone depletion at colloquium today

Mario Molina, one of three atmospheric chemists to share the 1995 Nobel Prize, will deliver a chemistry colloquium on campus on April 4 at 4:40 p.m. in Room 200 Baker Lab.

His lecture, "The Chemistry of Polar Ozone Depletion," is free and open to the public. It is sponsored by the Chemistry Department.

Molina, professor of chemistry at the Massachusetts Institute of Technology, shared the Nobel Prize with Paul Crutzen of the Max Planck Institute for Chemistry and F. Sherwood Rowland of the University of California at Irvine for their pioneering work over more than two decades on the atmospheric effects of the chlorofluorocarbons (CFCs), which they showed to be responsible for the depletion of stratospheric ozone.

In 1974, Molina, then a postdoctoral fellow with Rowland at California, first described how chemically inert CFCs are wafted into the stratosphere where they are broken up by ultraviolet (UV) radiation in a process called photodissociation. Molina and Rowland closely calculated the mean atmospheric lifetimes of typical CFCs and deduced the catalytic role of the released chlorine atoms in the destruction of ozone molecules.

In addition, Molina's investigations clearly outlined the threats posed by continuing use and production of industrial CFCs common in refrigerants and aerosol propellants—threats which included a projected ozone depletion of 7 percent to 13 percent at the 1974 rate of production, accompanied by an increase in UV radiation. Use of CFCs as propellants was banned in the United States in 1978, and the three chemists were awarded the Nobel Prize on the eve of the 1996 ban of all ozone-depleting chemicals as mandated in the 1987 Montreal Protocol.

Molina now is studying the effects of CFCs in the Northern Hemisphere, including the impact of chlorine emissions from a proposed fleet of supersonic transports currently being tested by NASA, and the effects of volcanic particulates on atmospheric ozone. A native of Mexico City, Molina received a Ph.D. in physical chemistry from the University of California at Berkeley in 1972 and, after a postdoctoral season at Irvine, became a senior research scientist at the Jet Propulsion Laboratory at the California Institute of Technology. He joined the MIT faculty in 1989.

Publications focus on science and nutrition activities with children

By Susan Lang

Adults and children can make an acid-base indicator to test foods, read a book about a rabbit gardener and then sprout a kidney bean, or test foods for fat using a paper towel.

These activities are examples from two new Cornell Cooperative Extension publications that combine fun, food, nutrition and science experiments for parents, teachers, 4-H club leaders, scout leaders and other adults to perform with children ages 5 to 12.

By doing fun experiments in *Kitchen Science for Kids*, children will begin to discover the physical and chemical properties of food. The five experiments show that foods are mixtures of many components, such as odor molecules, seeds, fat and acids. Each 20-minute experiment includes procedures, lists of supplies, questions to discuss, additional activities to extend the learning and notes for leaders. The 36-page booklet also includes 22 recipes for children, a list of children's books, and a cut-and-fold activity to learn about the new Food Guide Pyramid.

Families will learn about nutrition by reading children's books and doing science activities in the new program, *In the Bag: Families Sharing Science Together*. The teaching material includes a leader's guide that tells what storybooks to use, how to assemble materials in plastic bags for loan and how to manage a successful loaning program. Also included

are parent letters to photocopy.

Each parent letter suggests ways to talk about the storybook with a child and how to do two related science experiments together. The letter also includes a recipe, titles of other children's books and a physical activity or game. All activities, geared for children ages 5 to 8, are connected to themes in the storybooks.

Both publications were written by Tracy Farrell and Patricia Thonney, extension associates in the Division of Nutritional Sciences of the College of Human Ecology. The teaching material was field-tested and evaluated by Cornell Cooperative Extension staff in three counties who reached about 200 children and three dozen families in several community programs during a one-year pilot project.

"In designing activities, we wanted adults and children to have fun together learning about nutrition," Farrell said.

"Studies show that children need many kinds of experiences with science and that out-of-school experiences are very instrumental in getting them excited about science," added Thonney. "These publications will help parents and other adult mentors encourage children's natural curiosity and tendency to enjoy science."

Kitchen Science for Kids is \$4.75; *In the Bag: Families Sharing Science Together* is \$6.75. Copies are available from the Cornell University Resource Center, 7BTP, Ithaca, NY 14850, or from Cornell Cooperative Extension offices



Adriana Rovers/University Photography

Extension associates Tracy Farrell, left, and Patricia Thonney pose with pamphlets they've written.

throughout New York.

Development of the publications was supported by the American Chemical Society, the New York State 4-H Foundation and Cornell Cooperative Extension.

'Mad cow' agent merits further study, Cornell neuropathologist says

By Roger Segelken

Maddening cow disease might be a better name, so frustrating is the causative agent with its apparent ability to move among species. Not to mention the public-health dilemmas facing authorities in Great Britain, where a cattle disease called bovine spongiform encephalopathy (BSE), or mad cow disease, may have infected humans.

"Whatever the agent is that's presumably responsible for transmissible spongiform encephalopathies, it has the most remarkable properties and it desperately needs more study," said Brian A. Summers, a board-certified veterinary pathologist and associate professor of pathology in the College of Veterinary Medicine.

The agent — which is responsible for deadly brain diseases in victims ranging from cats to cannibals, Angus to antelope and men to mink — is remarkably difficult to kill, Summers said. It is highly resistant to all the usual means that reliably inactivate conventional infectious organisms.

"It may not be an organism, in the usual sense of the word, but rather a kind of rogue protein," Summers said, referring to the "prion hypothesis." First proposed by University of California neurologist Dr. Stanley B. Prusiner, the prion hypothesis has gained widespread, if not universal, acceptance as the basis for the maladies that turn the brain's grey matter into a sponge-like mass riddled with empty vacuoles.

"Prion" comes from the transposition of letters in "infectious protein," and since the idea was proposed, it was learned that there are "normal," non-infectious prions in all animals and genes responsible for their manufacture in the

Summers described a BSE case he witnessed while visiting the University of Cambridge. The animal had lost its coordination, was swaying as it walked and was stumbling, kicking and bellowing.

brain. But if prions contain any nucleic acid at all, it has remained elusive, Summers said. The agent can't be grown in tissue cultures. It does not induce an immune response in the hosts, so there is no blood test for carriers of the diseases.

"Sheep that have developed the spongiform disease scrapie will react in a characteristic way when you scratch their backs. But for most animals, including humans, your presumptive diagnosis must await the appearance of characteristic neurological signs," Summers said. A definitive diagnosis can only be reached with brain tissue from a biopsy or post-mortem examination. Pathologists performing post-mortem histological tests look for the distinctive vacuole structures in tissue of the brain and other parts of the central nervous system and for amyloid plaques deposited in some forms of spongiform disease.

The neuropathologist described a BSE case he witnessed while visiting the University of Cambridge. The animal had lost its coordination, was swaying as it walked and was stumbling, kicking and bellowing.

Those signs spelled death for more than 100,000 British cattle, slaughtered under government orders since BSE was discovered in England in 1986. British government restriction on the use of certain parts of cow carcasses was generally thought to ensure the safety of British beef — until the official announcement March 20 that new cases of human spongiform encephalopathy in England could be related to beef-eating.

Summers covers the human form, Creutzfeldt-Jakob Disease (CJD), and several others in his well-received new book, *Veterinary Neuropathology*, published in 1995 with co-authors John F. Cummings and Alexander de Lahunta, both professors of anatomy at the veterinary college.

One baffling aspect of the spongiform diseases is the extended lengths of incubation, Summers said. For example, CJD symptoms usually take decades to appear. However, some of the latest victims of the human form in Britain are adolescents. When spongiform diseases are experimentally transferred to laboratory animals, such as mice and hamsters, disease can occur in a matter of months.

"To get to the bottom of this, we really need to understand the nature of the infectious agent, whether it is a prion or a very small virus or whatever it turns out to be," Summers said. He is not optimistic that full knowledge of such a fundamentally different agent — and how it acts to produce these neurological disorders — will come soon.

"It may take another 20 or 30 years," he said, adding that "the matter is further complicated by the fact that some of the human conditions have a genetic basis."

Trading for an education



Adriana Rovers/University Photography
Brook Whitman, left, a junior in agricultural, resource and managerial economics, concentrates on his computer monitor during a simulated stock exchange auction in the new Laboratory for Experimental Economics and Decision Research in Warren Hall. The 24-seat lab opened in March.

Symposium eyes Internet and law

How much government regulation of the Internet should there be and how should the First Amendment apply to this electronic superhighway where everything from medical information to pornography is available at the press of a button?

These issues and others will be examined by law professors, attorneys, a representative of America Online and the president of Morality In Media at a symposium on "Regulating Cyberspace: Is Censorship Sensible?" April 12 and 13. Events are free and open to the public and take place in the MacDonald Moot Court Room of Myron Taylor Hall.

The symposium opens Friday, April 12, at 7 p.m. with a keynote address by Bruce Taylor, president of the National Law Center for Children and Families.

Saturday's sessions are at 10 a.m. and 1:30 p.m. with panel discussions on "Regulation of the Internet."

Participants include: Mark Eckenwiler, Gordon & Glickson, P.C.; Llew Gibbons, professor of law, Temple University School of Law; Marjorie Hodges, policy adviser to Cornell Information Technologies; Adam Lehman, assistant general counsel for America Online; Bob Peters, president of Morality In Media; Alan Davidson, staff counsel at the Center for Democracy and Technology; and Pam Samuelson, visiting professor of law at Cornell.

Symposium sponsors include Cornell's *Journal of Law and Public Policy*, the Cornell Office of Information Technologies and the New York State Bar Association.

Freshman Writing Seminar award winners named for fall of 1995

Nine students and three instructors have received prizes in Cornell's Freshman Writing Seminar program for work produced during the fall of 1995. The program was started in 1967 to improve the quality of writing across the curriculum and is administered by Cornell's John S. Knight Writing Program, which offers more than 100 freshman writing seminars in over 30 departments and programs each semester.

The awards, recipients and winning essays are listed below.

The James E. Rice Jr. Prize, \$150 award given for excellent expository writing in a freshman writing seminar, sponsored by the Adelpic Cornell Educational Fund:

• Sam Hammer '99, for "Reading Sixteenth-Century Italy Through Michelangelo's Last Judgement"

• Louie Hao-Yih Yang '99, for "Reassemblage: The Enlightenment of Democracy"

The Gertrude Spencer Prize, given jointly to a student and instructor (\$350 awarded to each) for work that culminated in the student's finished essay:

• Kate Farrell '99, for "A Paradox in Education"

• Miranda Paton, instructor, for "A Paradox in Education"

• Kathleen Brookfield '99, for "'Creation of the Whites': A Yuchi Resistance to White Conquest"

• Bethany Schneider, instructor, for "'Creation of the Whites': A Yuchi Resistance to White Conquest"

The Adelpic Award, \$150 prize given for the best essay written in a freshman

writing seminar by a student whose native language is other than English; sponsored by the Adelpic Cornell Educational Fund:

• Gloria Mieun Byun '99, for "Disguised Evil"

The Elmer Johnson Markham Prize, \$150 prize given for excellent expository writing in a freshman writing seminar:

• Louisa Bennion '99, for "Narrative Focus and the Momentum of Images in Joyce's *Araby* and *The Dead*"

John S. Knight Assignment Sequence Prize, \$350 award given to the instructor submitting the best sequence of writing assignments for a freshman writing seminar:

• Jeannie Morefield, instructor, for the assignment sequence "Analyzing Ideology and Making Critical Decisions"

Expository Writing Prize, \$150 award given each semester for the best student paper written in English 288 (fall) and English 289 (spring):

• Valerie L. Waye '97, for "An Exercise in Frustration"

• Todd Bourmet '96, honorable mention, for "Subverting the Fascist Aesthetic"

Buttrick-Crippen Fellowship, provides recipient with a full year of support to create and teach a new freshman writing seminar and to devote himself or herself to the study and practice of teaching composition within and beyond the context of his or her discipline:

• Paul C. Jeffries, graduate student, for the freshman writing seminar "Ways the World Is Weird: Philosophical Lessons of Modern Physics"

CALENDAR

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Civil & Environmental Engineering

Darcy Lecture: "Organic Liquid Contaminant Entrapment and Persistence in Subsurface: Interphase Mass Transfer Limitations and Implications for Remediation," Linda Abriola, University of Michigan, April 10, 4:30 p.m., B-14 Hollister Hall.

English

On April 8 at 2:55 p.m. in Hollis E. Cornell Auditorium of Goldwin Smith Hall, poet and essayist Kenneth McClane will speak as part of the "Mind and Memory" lecture series.

European Studies

"Se brûler les ailes? Le commerce équivoque de la littérature et du pouvoir en France au XVII^e siècle," April 5, 4:30 p.m., 201 A.D. White House, and "Placards: Posters, Flysheets and Their Reception in Early Modern France," April 9, 4:30 p.m., Guerlac Room, A.D. White, Christian Jouhaud, Mellon visiting scholar, Centre de Recherches Historiques.

"The Politics of Art in 20th Century Germany: National Socialism and the Post-World War II Period," April 9, noon, Johnson Museum of Art, and "The Politics of Art in 20th Century Germany: New Tendencies in East and West. A Review in the Light of Unification," April 10, noon, Johnson Museum of Art, Karl-Heinz Treiber, Association of Artists, Heidelberg.

Family Life Development Center

"Emotional Well-Being of Children: How to Recognize and Prevent the Undermining Effects of Psychological Maltreatment," a panel discussion with: James Garbarino, director, Family Life Development Center; Stuart Hart, Indiana University; and Marla Brassard, Columbia University, April 9, 9 a.m., Statler Amphitheater.

Floriculture & Ornamental Horticulture

"A Closeup Look at Woodland Gardening," John and Janet Gyer, April 6, 10:30 a.m., Whetzel Room, Plant Science Building.

International Students Programming Board

Chief Emeka Anyaoku, secretary-general of the Commonwealth of Nations, will lecture as part of the Cornell International Festival, April 4, 8 p.m., Call Alumni Auditorium, Kennedy Hall.

Music

Grout Lecture: "Ethics and Musical Style or Why Don Giovanni Must Die," John Deathridge, King's College, Cambridge, April 8, 4:15 p.m., Barnes Hall.

Olin Foundation Lecture

"Why We Need a National Conversation on Race," Lani Guinier, University of Pennsylvania Law School, April 11, 7:30 p.m., Statler Hall Auditorium.

Plant Propagation

"Seed Development, Germination and Growth in Trilliums," John Gyer, April 6, 1:30 p.m., Whetzel Room, Plant Science Building.

Society for the Humanities

"A Messianic Without Messianism? Discussing Jacques Derrida's *Spectres of Marx*," Etienne Balibar, University of Paris, April 10, 4:30 p.m., 165 McGraw Hall.

Southeast Asia Program

"The Covert Level of U.S. Southeast Asian Policies," George McT. Kahin, international studies, April 4, 12:15 p.m. Kahin Center, 640 Stewart Ave. "Citing Angkor: Contemporary Painting in the Age of Restoration," Ingrid Muan, Columbia University, April 11, 12:15 p.m., 640 Stewart Ave.

Theory Center

"Localized Orbitals: A Physically Meaningful Picture Leading to Intrinsically Parallel Algorithms for Electronic Structure Calculations," Stefan Goedecker, Max-Planck-Institute, April 4, 2:30 p.m., 456 Rhodes Hall.

Women's Studies

"Recent Developments in U.S. and European Community Sexual Harassment Laws," Toni Lester, visiting associate professor, ILR, April 5, 3:30 p.m., ILR Faculty Lounge, 280 Ives Hall.

music

Department of Music

• Festival of Olivier Messiaen: April 5, 8:15 p.m., Sage Chapel.
• April 7, 4 p.m., Barnes Hall: North Indian classical music, Shivkumar Sharma, santoor, and Shaafat Ahmed Khan, tabla.
• Festival of Olivier Messiaen: April 8, 8:15

p.m., Barnes Hall.

• April 11, 8:15 p.m., Unitarian Church: Annette Richards, organ, will perform works by Sweelinck, Weckmann, Schidt and Buxtehude.

Seth Kaufman Concert

Seth Kaufman '94 will give a solo piano concert April 4 at 8:15 p.m. in Barnes Hall. The concert will feature *Elysian Fields*, *Along Prytania* and other new compositions that will be part of a forthcoming album. Tickets are available at the Willard Straight Hall box office and at the door.

Taiwanese Music

The Cornell Taiwanese Folk Chorus will sing classical Taiwanese folk songs April 8 at 8 p.m. in Anabel Taylor Chapel.

Bound for Glory

April 7: Jamie Notarothomas will perform live in the Cafe in Anabel Taylor Hall at 8:30, 9:30 and 10:30 p.m. Admission is free and children are welcome. Bound for Glory is broadcast Sundays from 8 to 11 p.m. on WVBR-FM, 93.5 and 105.5.

readings

Creative Writing

John Brehm, visiting professor of English, will give a poetry reading April 4 at 4:30 p.m. in the A.D. White House. His poems have appeared in *Poetry*, *New England Review*, *Prairie Schooner*, as well as many other literary journals.

religion

Sage Chapel

Robert Johnson, director of Cornell United Religious Work, will give the sermon Easter Sunday, April 7, at 11 a.m. in Sage Chapel.

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., noon and 5 p.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. Holy Thursday Mass: April 4, 7:30 p.m., Anabel Taylor Auditorium.

Good Friday Mass: April 5, 3 p.m., Anabel Taylor Auditorium.
Easter Vigil: April 6, 7:30 p.m., Sage Chapel.
Easter Mass: April 7, 11 a.m., Bailey Hall.

Christian Science

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/cso.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

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

Friday Services: Conservative: 6 p.m., Founders Room, Anabel Taylor Hall; Reform: 6 p.m., ATH Chapel; Orthodox: call for time, 272-5810, Young Israel.

Saturday Services: Orthodox: 9:15 a.m., One World Room, ATH; Egalitarian Minyan, 9:45 a.m., Founders Room, ATH.

Passover Services: Orthodox: April 10 and 11, 9:15 a.m., Edwards Room, ATH.

Korean Church

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

Latter-day Saints (Mormon)

Sunday services: Cornell Student Branch, 9 a.m., Ithaca ward, 1 p.m. For directions or transportation, call 272-4520, 257-6835 or 257-1334.

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.

Orthodox Christian

Sundays, Divine Liturgy at 10 a.m., St.

Catherine's Greek Orthodox Church, 120 W. Seneca St., 273-6884.

Protestant Cooperative Ministry

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

Sri Satya Sai Baba

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

Zen Buddhist

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

seminars

African Development, Institute for

"Policy Strategies for Improving the Investment Climate in Africa," Anthony Knight, GTE Personal Communication Services, April 8, 12:15 p.m., 208 W. Sibley Hall.

Animal Science

"Using the World Wide Web Helps People Learn," Dan Brown, animal science, April 9, 12:20 p.m., 348 Morrison Hall.

Anthropology

"Time, History and Power in Aztec Society," Ross Hassig, University of Oklahoma, April 5, 3:30 p.m., 215 McGraw Hall.

Applied Mathematics

"Computational Mathematics in the 1990s and Beyond," Nick Trefethen, computer science, April 5, 3 p.m., 456 Rhodes Hall.

Astronomy & Space Sciences

"Discovery of a Cool, Brown Dwarf," Shri Kulkarni, Caltech, April 4, 4:30 p.m., 105 Space Sciences Building.

Bioengineering

"Biotechnology at NIST: From DNA to Detergents," Walter Stevens, National Institute for Standards and Technology, April 5, 12:20 p.m., 155 Olin Hall.

Biogeochemistry

"The Effects of Climatic Warming on the Biogeochemistry of Boreal Lakes," David Schindler, University of Alberta, April 5, 4 p.m., A106 Corson Hall.

Biophysics

"Quantum Chemistry Investigations of Enzyme Reaction Mechanisms," Walter Stevens, National Institute of Standards and Technology, April 4, 4:30 p.m., 700 Clark Hall.

"DNA Can Be an Enzyme, Too," Gerald Joyce, Scripps Research Institute, April 10, 4:30 p.m., 700 Clark Hall.

Chemistry

"The Chemistry of Polar Ozone Depletion," Mario Molina, Massachusetts Institute of Technology, April 4, 4:40 p.m., 200 Baker.

"Catalytic and Other New Functions for Receptor-Like Antibacterial Agents," John Griffin, Stanford University, April 8, 4:40 p.m., 119 Baker.

Ecology & Systematics

"Triatomine Bugs and Chagas Disease: From Vector Host-Feeding Patterns to Risk of Parasite Transmission in Northwest Argentina," Ricardo Gurtler, University of Buenos Aires and Rockefeller University, April 10, 4 p.m., A106 Corson Hall.

"Climate Feedbacks, Biological Cycles and the Biogeochemistry of the Sargasso Sea," Anthony Michaels, Bermuda Biological Station for Research Inc., April 11, 4:30 p.m., 213 Kennedy Hall.

Electrical Engineering

"Marconi Meets the Market," Donald Martin, April 9, 4:30 p.m., 101 Phillips Hall.

Floriculture & Ornamental Horticulture

"Breaking Dormancy in Plant Seeds by Chilling and Hormone Treatments: A Tough Nut to Crack," Robb Arnold, Colgate University, April 8, 12:20 p.m., 404 Plant Sciences Building.

Fruit & Vegetable Science

"Superior Modeling of Photoperiod-Temperature Regulation of Flowering for 11 Crops," Don Wallace and Weikai Yan, fruit & vegetable science, April 4, 4 p.m., 404 Plant Science Building.

"The Future of Fruit Breeding," Jules Janick, Purdue University, April 11, 4 p.m., 404 Plant Science Building.

Food Science

"Food Science at Cornell: A Vision and a Plan!" Mark McLellan, food science & technology, Geneva, April 9, 4:15 p.m., 204 Stocking Hall.

Genetics & Development

"What Does Daddy Do? The Role of Paternal Effect Genes in *Drosophila*," Barbara Wakimoto, University of Washington, April 8, 4 p.m., large seminar room, Biotechnology Building.

Geological Sciences

"Paleoclimate Studies on the Large Lakes of East Africa," Tom Johnson, University of Minnesota, April 9, 4:30 p.m., 1120 Snee Hall.

International Nutrition

"Nutrition and the Epidemiologic Transition in Indonesia," Andrew Flood, nutritional sciences, April 4, 12:15 p.m., 100 Savage Hall.

International Studies in Planning

"Producing and Transforming Inequality: Ancestral Burdens," Amiya Bagchi, Center for Development Research, Copenhagen, April 5, 12:15 p.m., 115 Tjaden Hall.

Latin American Studies

"Great Depression, Rural Protests and the Origins of Colombian Revolutionary Agrarianism," Michael Jimenez, University of Pittsburgh, April 9, 12:15 p.m., 153 Uris Hall.

"Whither Latin American Studies," Michael Jimenez, April 9, 4 p.m., 153 Uris Hall.

Natural Resources

TBA, David Schindler, University of Edmonton, Alberta, April 4, 3:30 p.m., 304 Fernow Hall.

"Opposing Predation Pressure and Induced Vertical Response in *Daphnia*," Howard Riessen, Buffalo State College, April 11, 3:30 p.m., 304 Fernow Hall.

Neurobiology & Behavior

"Spanish Fly," Tom Eisner, neurobiology & behavior, April 4, 12:30 p.m., A106 Corson Hall.

Operations Research & Industrial Engineering

"World Without Borders: Global Manufacturing Today," William Hudson, CEO of AMP Inc., April 4, 4:30 p.m., 155 Olin Hall.

Ornithology

"Tales of the Uncommon Crow: A Look at the Personal Lives of Crows in Ithaca," Kevin McGowan, ecology & systematics, April 8, 7:30 p.m., Fuertes Room, Lab of Ornithology.

Plant Biology

"Regulation of Plant Actin Organization and Dynamics," Christopher Staiger, Purdue University, April 5, 11:15 a.m., 404 Plant Science Building.

Plant Breeding

"Building Novel North-South Partnerships Through Biotechnology," Anatole Krattiger and K.V. Raman, International Service for the Acquisition of Agri-Biotech Applications (ISAAA), April 9, 12:20 p.m., 135 Emerson Hall.

Plant Pathology

"A Binary-BAC System for Transfer of High Molecular Weight DNA to Plants," Carol Hamilton, April 9, 3 p.m., A133 Barton Laboratory, Geneva.

"Comparison of the hrpH (hrpC) Locus of Two *Erwinias*, *E. amylovora* and *E. chrysanthemi*," Ji-Hyun Kim, plant pathology, April 10, 12:20 p.m., 404 Plant Science Building.

Rural Sociology

"Bolivia's Coca/Cocaine Economy: The Peasant Growers Movement," Kevin Healey, InterAmerican Foundation, April 11, 12:15 p.m., location TBA.

Sociology Joint Colloquia Series

"Dual Aggression on the Basis of Relational Homogeneity," Ron Breiger, sociology, April 5, 3 p.m., Faculty Commons, MVR Hall.

Soil, Crop & Atmospheric Sciences

"Mapping Pesticide Leaching Potential at Regional Scale," Stephen DeGloria, soil, crop & atmospheric sciences, April 9, 3:30 p.m., 135 Emerson Hall.

South Asia Program

"Producing and Transforming Inequality: Enduring and Ancestral Burdens," Amiya Bagchi, Roskilde University, Denmark, April 5, 12:15 p.m., 115 Tjaden Hall.

"Rethinking Sri Lankan Identity: History, Social Structure and National Consciousness," Arjun Guneratne, April 5, 3 p.m., 153 Uris Hall.

"Women and the Camera: Some Issues Related to Gender and Technology," Sabeena Gadihoke, Syracuse University, April 8, 12:15 p.m., G-08 Uris Hall.

Statistics

"Latent Variable Modeling of Diagnostic Accuracy," Ilsoon Yang, University of Michigan, April 10, 3:30 p.m., 100 Caldwell Hall.

Sustainable Agriculture & Food Systems

"Learning From Experience: Sustainable Traditional Agriculture in the Tai Lake Region of China," Erle Ellis, SCAS visiting fellow, April 10, 4 p.m., 401 Warren Hall. Contact Dean Hively, 255-3066 or <wdh3@cornell.edu>.

Textiles & Apparel

"Interfacial Shear Strength Measurement Using Image Analysis With Single Fiber Composite Technique," Sheldon Wesson, TRI/Princeton, April 11, 12:20 p.m., 317 Martha Van Rensselaer Hall.

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CALENDAR

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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.

Book Sales

• The Durland Alternatives Library fourth annual book sale will be going on in the library, 127 Anabel Taylor Hall, through April 7. Subjects cover holistic health, progressive politics, world religions, Native America, ecology, esoterica and much more. Library hours are Monday through Friday, 9:30 a.m. to 6 p.m., Saturday, noon to 4 p.m. and Sunday, 7:30 to 10:30 p.m. Proceeds will go to the West Africa-Ithaca Library Partnership Project. Call 255-6486 for information.

• The Music Library, B21 Lincoln Hall, is offering music and art books, printed music and sound recordings for sale April 10 through 13, 10 a.m. to 5 p.m. Cash or check only. Special feature: Silent auction of a 1960 edition of the *Encyclopaedia Britannica* (minimum bid of \$50).

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. For more information call 387-0587.

Cornell International Festival

• Flag painting, April 4, 3:30-5:30 p.m., Big Red Barn.
• Global soccer tournament, April 6, 10 a.m.-2 p.m., Alumni Fields.
• International exhibition, April 8, 9 a.m.-5 p.m., Memorial Room, Willard Straight Hall.
• Dance debut, April 11, 8-10:30 p.m., Statler Auditorium.

Internet Course

An introduction to the Internet workshop will be held April 11 from 2:30 to 4:30 p.m. in the Uris Library Computer Lab. This is part one of the two-part sequence. For information call 255-4144 or e-mail <Olinref@cornell.edu>.

Ithaca Area Toastmasters

Enhance public-speaking skills. The toastmasters meet the first, third and fourth Thursdays of each month at 7 p.m. at BOCES Room A-1. For info, call 277-0513.

LGB Resource Office

• Friday, April 5, 4:30 p.m.: LGB faculty/staff TGIF at the Chapter House.
• April 9, noon, McManus Lounge, Hollister Hall: Brown bag lunch.
• A workshop, Being Out (or Not) at Work, is being offered April 9 from 6:30 to 8:30 p.m. at 20 Thornwood Drive. Preregistration required. To register, contact the Work and Family Program, 130 Day Hall, 255-3649, or e-mail the LGB Resource Office, <cu_lbg@cornell.edu>.
• April 11, 6 to 7 p.m., Call Alumni Auditorium: Town meeting by President Hunter Rawlings and Vice President Susan Murphy addressing issues of concern to the lesbian, gay and bisexual community. Refreshments will be served at 5:30 p.m.

Lunchtime Meditation

For beginner through experienced meditators, health educator Nanci Rose will give instruction in various techniques Wednesdays from 12:15 to 1 p.m. in the North Room of Willard Straight Hall. Open to all faculty and staff. For information, call Gannett at 255-4782.

Red Cross Instructor Courses

To become a Red Cross CPR and first aid instructor, contact Tarry Hilliard, director of health services at the American Red Cross, at 273-1900 about the following course:

• CPR for the professional rescuer instructor, April 9, 6 to 10 p.m.

Also, the Red Cross is offering standard first aid and community CPR classes for a fee of \$45. Courses are open to all Cornell faculty and staff members with supervisory approval. Contact the Red Cross at 273-1900 for a registration card that needs to be filled out by the supervisor and returned to the Red Cross. The courses offered are:

• April 5, 8 to 10:30 a.m.
• April 10, 8 to 11:30 a.m.

Writing Workshop's Walk-in Service

Free tutorial instruction in writing.
• 178 Rockefeller Hall, Sunday, 2 to 8 p.m., Monday through Thursday, 3:30 to 5:30 p.m. and 7 to 10 p.m.
• RPCC, Conference Room 3, Sunday through Thursday, 8 to 11 p.m.
• 320 Noyes Center, Sunday through Thursday, 8 to 11 p.m.

Presenting the past is theme of upcoming conference

By Jill Goetz

How should pivotal historical events be recorded? Depicted? Commemorated?

"Recent controversies in public history, from the 'Disney's America' theme park to the Smithsonian Institution's *Enola Gay* exhibit, have highlighted the contested nature of collective memory," says Cornell graduate student Jeffrey Hyson. Such debates are themselves powerful reminders of the uneasy alliance of history and memory, he said.

That alliance is the theme of a conference that will be held on campus April 11 through 13, titled "History and Memory: An Interdisciplinary Graduate Student Conference." All programs are free and open to the public and will be held in the A.D. White House on campus. The conference is being sponsored by the Department of History, Society for the Humanities, Graduate and Professional Student Assembly and Graduate History Association.

"I think the World War II/Holocaust anniversaries in the 1980s and '90s really brought the problem of history and memory to the fore, both in academic discourse and public consciousness," said Hyson, who is chair of the Graduate History Association conference committee. "And the controversies over recent 'historical' films like *JFK*, *Malcolm X*, *Panther* and *Nixon* illuminate yet another area of this field—the power of imaginative works about the past which follow neither 'historical fact' nor 'authentic memory.'"

The controversy over the *Enola Gay* exhibit (ultimately scaled back), in which a display of part of the plane that dropped the bomb on Hiroshima would have been presented with extensive commentary that many veterans' groups found pro-Japanese, "demonstrated the continuing tension between history and memory," Hyson said. "Veterans claimed that historians (especially younger historians) couldn't understand what they'd been through near the end of World War II, while historians insisted that their research told a different story.

"Issues of history and memory almost necessarily extend across traditional disciplinary boundaries, embracing history, anthropology, oral history, psychology, literature, communications, sociology and many other fields," he added.

Thus, the conference will approach the intersection of history and memory from a range of disciplines, as reflected in the titles of the panels: "Literary Memories of World War II," "Rituals of American Politics,"



Carolyn Russo/NASM

The restored forward fuselage of the B-29 *Enola Gay*, from the *Enola Gay* exhibition at the Smithsonian's National Air and Space Museum.

"Race and Historical Memory in the United States," "Politics, Culture and Native American Memory," "Confronting World War II: Museums and Oral History" and "Memory and the Representation of the Holocaust."

The "History and Memory" conference will feature two keynote speakers. Michael Kammen, the Newton C. Farr Professor of American History and Culture at Cornell, will give a lecture on Thursday, April 11, at 7:30 p.m. titled "The Problem of Memory in Contemporary Historiography and Public Culture." Kammen, the outgoing president of the Organization of American Historians, is the author of 1993's *Mystic Chords of Memory: The Transformation of Tradition in American Culture*. He won a Pulitzer Prize in 1973 for another book, *People of Paradox: An Inquiry Concerning the Origins of American Civilization*.

Steven Aschheim, associate professor of German cultural and intellectual history at Hebrew University in Jerusalem and the Institute for Advanced Study at Princeton University, will give a lecture at 3:30 p.m. Friday, April 12, titled "New Directions and Issues in Holocaust Historiography." The first professor of Judaic Studies at Reed College in Portland, Ore., where he taught from 1980 to 1982, Aschheim is the author of *The Nietzsche Legacy in Germany, 1890-*

1990 and *Brothers and Strangers: The East European Jew in German and German-Jewish Consciousness, 1800-1923*.

Though several sessions at the conference will address events surrounding World War II, other milestones also will be explored in such presentations as "The King Must Die: The Funerals of Abraham Lincoln and John F. Kennedy," by Nancy Banks of the New School for Social Research Department of Political Science; "Karenga, Kawaida and the Organization Us: A Challenge to African-American Historical Memory," by Cornell graduate student Scot Ngozi-Brown; and "Decolonized Territory: Native American Documentary and Cultural Revival," by Michelle Stewart of the University of Minnesota Department of Cultural Studies and Comparative Literature.

"What I believe every scholar of history and memory hopes to do—and perhaps this may be a theme of our conference—is to demonstrate that history and memory are neither easy allies nor constant opponents, but are instead enmeshed in an ambiguous, often strangely symbiotic relationship," Hyson said.

For further information about the "History and Memory" conference, contact Hyson at 277-7607 or <jh31@cornell.edu>.

sports

Baseball (5-9, 0-0 Ivy)

April 5, Harvard (2), 12 p.m.
April 6, Dartmouth (2), 12 p.m.

The Big Red diamondmen are riding a four-game winning streak, their longest since sweeping Colgate twice, Ithaca College and Princeton in 1995. Last weekend, Cornell traveled to Colgate on Saturday and came home a victor twice, 13-6 and 6-4. Then the two teams came to Ithaca on Sunday and once again Cornell swept the Red Raiders, 7-3 and 5-0. Earlier in the week, on Thursday, the Red opened the Northeast portion of the schedule by entertaining Cortland. The visitors were victorious 7-5.

Equestrian (0-0)

April 6, Regionals at Cazenovia.

The riders closed out the regular season by tying for third place at the St. Lawrence Invitational last weekend in Canton. Jason Kahabka placed first in the 7B Novice Over Fences and junior Danielle Schilpp (Mahopac, N.Y.) took first in the 5B Intermediate Equitation on the Flat and was second in the 8B Intermediate Equitation Over Fences competition.

Women's Gymnastics (1-22)

The women's gymnastics team placed sixth out of six teams at the ECAC championships at Brown last Saturday afternoon. The winner of the ECAC title was Northeastern with a final score of 186.450, followed by Vermont (184.525), Yale (183.450), Pennsylvania (179.175), Brown (174.750) and then the Big Red (171.075). The

highlight of the event for Cornell was sophomore all-arounder Jessica Wang (Staten Island, N.Y.) being named ECAC Gymnastics Student-Athlete of the Year. Wang, who received Academic All-Ivy honors earlier this month, checks in with a 3.84 grade point average as a biology and society major at Cornell. She was the Red's leader in the floor exercise at the ECAC championships with an impressive mark of 9.4, but with the high level of competition she was just 12th place out of 36 entries. Leading the way for the Red in the all-around was senior co-captain Karin Weismann (Norwich, N.Y.), who placed ninth with a four-event total of 35.426.

Men's Lacrosse (2-4, 1-1 Ivy)

April 6, UMBC, 2 p.m.

Sophomore midfielder Bryan Younge (Honolulu, Hawaii) scored 2:23 into overtime to lift the Big Red to a 12-11 win at Penn on Saturday. On Wednesday, Delaware posted a 16-14 victory over the Big Red at Schoellkopf Field.

Women's Lacrosse (2-3, 0-2 Ivy)

April 6, Yale, 11 a.m.

The women's lacrosse split a pair of home games, losing to Brown (12-9) on Saturday before winning 15-7 against New Hampshire on Sunday.

Men's Polo (13-4)

April 6, Greenwich, 8:15 p.m.

The Big Red took on its coaches Saturday night and pulled off a come-from-behind victory, winning by a score of 16-14.

Women's Polo (13-5-1)

April 5, Coaches, 7:30 p.m.

With a mere week remaining before the national intercollegiate championships, the women's polo team rounded out a competitive weekend, falling 11-9 to Maryland at home Friday night, but redeeming themselves on the road Saturday by defeating Virginia 16-14.

Softball (7-6, 0-0 Ivy)

April 6, at Pennsylvania (2)

The softball team went 2-2 last week, losing a doubleheader to Hartford by scores of 4-2 and 11-6, before sweeping Central Connecticut 7-3 and 7-1.

Women's Tennis (7-0, 0-0 Ivy)

April 5, at Pennsylvania

April 6, at Columbia

The women's tennis team set a school record for the best spring season start with a 7-0 record, defeating Rutgers 7-2 on Saturday afternoon in the Reis Tennis Center. The netters finished the non-conference portion of their schedule undefeated. Leading the way for the Big Red was senior Olga Itskhoki (Moscow, Russia), who won her match at No. 1 singles in straight sets (6-2, 6-2). Junior Mo Bertsch (East Grand Rapids, Mich.) breezed through her contest at No. 2 singles (6-1, 6-0) and senior Jigisha Pathakji (Staten Island, N.Y.) also won a hard-fought match at No. 3 singles (6-4, 6-2). The Big Red won five of the six singles matches, clinching the victory before the doubles matches were played.

CALENDAR

April 4
through
April 11

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

April 7, North Room, Willard Straight Hall: 7:30 p.m., Zillertaler Laendler (Austrian) and Schottish (Scandinavian) taught by Dick Darlington, 8:30 p.m., request dancing. For information, call Edilia at 387-6547 or Marguerite at 539-7335 or send e-mail to David at <dhr1@cornell.edu>.

Israeli Folkdancing

Thursdays, 8 p.m., Edwards Room, Anabel Taylor Hall. For information, call 255-4227.

exhibits

Johnson Art Museum

Open Tuesday through Sunday from 10 a.m. to 5 p.m. Admission is free. Telephone: 255-6464.

• "Playfulness and Fashion: Intro From the Weston Collection," through May 12.

• "For the Enjoyment of Art: The Lockhart Collection," through May 12.

• "Still Time: Photographs by Sally Mann," through May 26.

• "A Life Well Lived: Fantasy Coffins of Kane Quaye," April 6 through June 16.

• Thursday Noontime Gallery Tours: On April 4 at noon, Nancy Green, curator of prints, drawings and photographs, will conduct a gallery talk on "For

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

Thursday, 4/4

"As I Remember It: A Portrait of Dorothy West" (1991), directed by Salem Mekuria, 5:30 p.m., free.

"The Institute Benjamenta" (1995), directed by The Brothers Quay, 7 p.m.

"The Gringo in Mananaland" (1995), with visiting filmmaker DeeDee Halleck, 9:15 p.m.

Friday, 4/5

"Sidet: A Forced Exile" (1991) and "Deluge" (1992), with visiting filmmaker Salem Mekuria, 7 p.m.

"Jumanji" (1995), directed by Joe Johnston, with Robin Williams and Bonnie Hunt, 7:15 p.m., Uris.

"Mighty Aphrodite" (1995), directed by Woody Allen, with Allen, Mira Sorvino and Michael Rapaport, 9:45 p.m., Uris.

"The Institute Benjamenta," 10:15 p.m.

"Monty Python's Life of Brian" (1979), directed by Terry Jones, with the Monty Python cast, midnight, Uris.

Saturday, 4/6

"Yugoslavia: Death of a Nation," presented by the Bosnia Coordinating Committee, 1 p.m., free.

"The Music Room" (1958), directed by Satyajit Ray, 7 p.m.

"Mighty Aphrodite," 7:25 p.m., Uris.

"The Institute Benjamenta," 9:30 p.m.

"Jumanji," 9:40 p.m., Uris.

"Monty Python's Life of Brian," midnight, Uris.

Sunday, 4/7

"Jumanji," 4:30 p.m.

"Mighty Aphrodite," 7:15 p.m.

"Echoes of Silence" and "Pestilent City," presented by Pentangle, 7:30 p.m., Uris, free.

Monday, 4/8

"Wuthering Heights" (1952), directed by Luis Bunuel, 7 p.m.

"The Women" (1939), directed by George Cukor, with Joan Crawford, Norma Shearer and Rosalind Russell, 9 p.m.

Tuesday, 4/9

"King Lear" (1988), directed by Jean-Luc Godard, with Norman Mailer, Burgess Meredith and Molly Ringwald, 7:15 p.m.

Brothers Quay Shorts (1979-1988), directed

the Enjoyment of Art: The Lockhart Collection."

Design and Environment Analysis

Interior and architectural work by Robin Guenther, AIA, and her firm, Architecture + Furniture, through April 12, E124 MVR Hall.

Tjaden Gallery (M-F, 8 a.m. to 5 p.m.)

Work by students of Professor Norman Daly's "Color, Form and Space" class, through April 6.

Veterinary Medical Center

Paintings by Corinne T. Kenney, DVM '62, are on display in the center's gallery through June 9.

African fantasy coffins are on display

Modern designer coffins, carved out of the traditions of Ghana, are on display at the Herbert F. Johnson Museum of Art from April 6 to June 16.

In *A Life Well Lived: Fantasy Coffins of Kane Quaye*, it is apparent that Ghanaian traditional beliefs view death not as a termination of life but as a transition to the realm of the ancestral spirits. As evidence, the Johnson Museum is hosting an exhibition of 12 fantasy coffins by Kane Quaye (1927-1992). The collection, on tour from Primitive Artisan Inc. of Pittsfield, Mass., demonstrates the diversity and artistic renderings that are part of the Ghanaian funeral tradition.

The coffins merge personal expression, artistry and the evolution of a cultural tradition, depicting outrageously colorful repli-

cas of unexpected objects, such as a huge chicken, a fish, a lobster and even an out-board motor.

Quaye's art plays a unique role in the burial tradition of southern Ghana in West Africa. His burial creations have shaped a generation of woodworkers in the region. The designer coffins of Kane Quaye fit into a new mode of elaborate memorial art. Fantasy coffins are a relatively recent phenomenon of the last half century. More than 20 years ago, Quaye was asked to make a special coffin in the shape of a fishing canoe for an ailing uncle who was a renowned fisherman. It was a huge success at the funeral rites, and before long Quaye's coffins were in demand.

Museum hours are 10 a.m. to 5 p.m., Tuesday through Sunday.



Filmmaker Salem Mekuria will introduce her films "Sidet: A Forced Exile" and "Deluge" Friday, April 5, at 7 p.m. in the Willard Straight Theater. Above is a scene from "Sidet."

by The Brothers Quay, 7:30 p.m., CTA Film Forum.

"Jumanji," 9:30 p.m.

Wednesday, 4/10

"Bosnal" presented by the Bosnia Coordinating Committee, 4:30 p.m., free.

"The Mirror" (1974), directed by Andrei Tarkovsky, 7 p.m.

"Portrait of Teresa" (1979), directed by Pastor Vega, presented by CUSLAR and the Latin American Studies Program, Spanish with English sub-

titles, 8 p.m., Uris, free.

"Charulata" (1964), directed by Satyajit Ray, with Madhabi Mukherjee, 9:30 p.m.

Thursday, 4/11

"A Tale of Love" (1995), directed by Trinh T. Minh-ha, 4:30 p.m., free.

"Charulata," 7 p.m.

"Cold Fever" (1995), directed by Thor Fridriksson, with Masatoshi Nagase, Lili Taylor and Fisher Taylor, 9:30 p.m.

graduate bulletin

• **Move to Caldwell:** The Graduate School offices will move from Sage Hall to Caldwell Hall. Anticipated moving dates are:

Records Office, Thesis Adviser, Admissions Office, and Fellowships and Financial Aid Office – May 3 to 5.

Deans' offices and Publications and Statistics Office – May 14 to 24.

• **May 3: Closed for move:** The Graduate School offices will be closed on Friday, May 3, because of the move (see exception for thesis adviser). Phone and e-mail service also will not be available on May 3. On Monday, May 6, limited services will be available in Caldwell Hall. We apologize for the inconvenience.

• **Thesis Adviser:** The thesis adviser will be available for walk-in student appointments on Friday, May 3, from 9 a.m. to noon and from 1:30 to 3:30 p.m. in the lounge of Sage Hall. On Monday, May 6, the thesis adviser will be available in 192 Caldwell Hall.

• **Lani Guinier lecture:** The annual Spencer T. and Ann W. Olin Foundation Lecture will be given by Lani Guinier on Thursday, April 11, 7:30 p.m., Statler Hall Auditorium. Admission is free, but tickets are required. Tickets are available at the Willard Straight ticket office; the Information and Referral Center, Day Hall; the Graduate School information desk; and at the door.

• **Travel:** Conference travel grant applications are due at the Graduate Fellowship and Financial Aid Office, Caldwell Graduate Center, by May 1 for June conferences. Application forms are available at graduate field offices. Grants for transportation are awarded to registered graduate students invited to present papers.

• **May degree:** All requirements for a May degree must be completed by May 17, including submitting the dissertation/thesis to the Graduate

School. Professional master's candidates should check with their field regarding earlier deadlines.

• **CoursEnroll: Pre-enrollment for Fall '96:** Course pre-enrollment is on-line and electronic through Bear Access. Dates for graduate students are through April 19. A graduate student must obtain consent from the committee chairperson for the pre-enrollment course selections and then receive an electronic 'adviser key' (password) from the chairperson or graduate field office. The Fall '96 Course and Time Roster is available on the Web. If you do not pre-enroll, you must submit a course enrollment form during the first three weeks of the fall semester. If you pre-enroll and decide to make changes, you must submit a course 'add and drop' form during the first three weeks of fall semester.

• **Summer registration:** Summer graduate registration begins Monday, May 20, at the Graduate School information desk, first floor, Caldwell Hall. 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.

• **Orientation volunteers:** Volunteer as a graduate adviser for Graduate Orientation Week, Aug. 21 to 31. Contact Victoria Blodgett, manager of the Big Red Barn Grad Center, at 254-4723 or <vab2@cornell.edu>.

lectures

Africana Studies & Research Center

"Tracking in Education: The Perpetuation of Racial and Class Privilege in the Ithaca School System," Don Barr, human service studies, and Deborah Manning, director of affirmative action and intercultural relations for the Ithaca City School District, April 10, noon, 310 Triphammer Road.

Bartels World Affairs Lecture

"New Actors in a New World Order," Jessica Tuchman Mathews, columnist with The Washing-

ton Post and a senior fellow at the Council on Foreign Relations, April 9, 5 p.m., Call Alumni Auditorium, Kennedy Hall.

Chemistry

Debye Lectures: "Superconductivity – From an Exotic Frontier to Mainstream Interdisciplinary Science and Emerging Technology," Ted Geballe, Stanford University, April 11, 11:15 a.m., 119 Baker.

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