

11-6-1992

## NEWS AND NOTES 1992, VOL.3, NO.9

The Rockefeller University

Follow this and additional works at: [http://digitalcommons.rockefeller.edu/news\\_and\\_notes\\_1992](http://digitalcommons.rockefeller.edu/news_and_notes_1992)

---

### Recommended Citation

The Rockefeller University, "NEWS AND NOTES 1992, VOL.3, NO.9" (1992). *News and Notes 1992*. Book 35.  
[http://digitalcommons.rockefeller.edu/news\\_and\\_notes\\_1992/35](http://digitalcommons.rockefeller.edu/news_and_notes_1992/35)

This Book is brought to you for free and open access by the The Rockefeller University News and Notes at Digital Commons @ RU. It has been accepted for inclusion in News and Notes 1992 by an authorized administrator of Digital Commons @ RU. For more information, please contact [mcsweej@mail.rockefeller.edu](mailto:mcsweej@mail.rockefeller.edu).

# news & notes

November 6, 1992 Volume 3, Number 9

The Rockefeller University

## RU runners compete in New York City Marathon

by Jennifer Horne King

Nearly 26,000 runners gathered on Sunday in the crisp November air for the 23rd annual New York City Marathon. Once again, the university was well represented, with over a half-dozen novices and veterans alike finishing the 26.2-mile course.

Marathon novice Bob Spencer, assistant professor in the McEwen lab, started his training from scratch six months ago with a beginner's manual on how to prepare for a marathon. By the end of his training, he had lost 15 pounds and was running 40 miles a week. "I didn't have any illusions about making excellent time," says Spencer who claims he's not a runner but finished in 4hrs 30 secs. "I just enjoyed being a part of the spectacle."

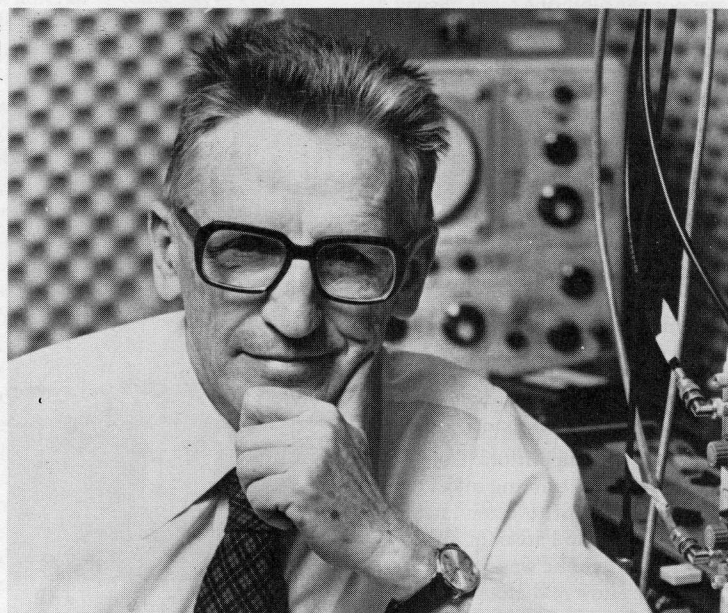
Lenore Martin, research associate in the Merrifield lab, reports a twenty-minute improvement over her first marathon last year, finishing in 4hrs 47min. "Once again," says Martin, "the cheering crowds carried me to the finish, but this time, I was able to pay more attention to my surroundings."

Martin describes one runner's t-shirt that caught her attention: "On the front it read 'Heart Transplant, 4/91'." Martin also found the time to examine another runner who appeared to be wearing

## Renowned scientist peers into animal minds

Donald R. Griffin, an international pioneer in the study of animal awareness and the first man to show that bats use sound to "see", will deliver the Fairfield Osborn Memorial Lecture in Environmental Science at The Rockefeller University next Wednesday, Nov. 11. The lecture, entitled "Windows on Animal Minds" will discuss how the communicative signals of animals—from the waggle dance of the honey bee to the broken-wing display of the plover—provide a revealing "window" on their subjective thoughts and feelings. It will be held at 4:30 p.m. in Caspary Auditorium and is open to the entire university community.

Griffin, Professor Emeritus at Rockefeller and an associate at the Museum of Comparative Zoology at Harvard, is a seminal figure in 20th century ethology, the study of animal behavior. In the 1930s he discovered that bats use echolocation, determining their position in relation to an object by echoes of their own sounds. In the 1960s he was the founding director of the Institute for Research in Animal Behavior at RU, one of the most distinguished centers of animal investigation in the world. In the 1970s, Griffin helped create a new field of biology: cognitive ethology, or the study of animal awareness. By using communication and versatility of behavior as windows into the inner world of a variety of animal species, Griffin has convincingly argued that animals are engaged in some form of planning, thinking



Rockefeller University Archives

Donald R. Griffin will delve into animal consciousness at the Fairfield Osborn Memorial Lecture on Wednesday.

and reasoning as they go about their daily lives.

A member of the National Academy of Sciences and a fellow of the American Academy of Arts and Sciences, Griffin is the author of many books, including *Listening in the Dark*, *Echoes of Bats and Men*, *Bird Migration*, *The Question of Animal Awareness* and, most recently, *Animal Minds*, just published by The University of Chicago Press.

The Fairfield Osborn Memorial Lecture in Environmental Science is sponsored by the New York Zoological Society, The Rockefeller University and World Wildlife

Fund (which, since 1991 incorporates The Conservation Foundation), to commemorate Fairfield Osborn's many contributions to environmental science.

Osborn (1887-1969) devoted his life to furthering human understanding of the natural world. His distinguished role in wildlife management and ecological studies is reflected in his 28-year presidency of the New York Zoological Society, as well as his visionary book, *Our Plundered Planet*, published to wide acclaim in 1948. That same year, Osborn established The Conservation Foundation, where he served as President until 1961.

In the 1960s, Osborn's fascination with animal behavior found a kindred spirit in Detlev W. Bronk, then president of Rockefeller. Discussion led to the creation of an Institute for Research in Animal Behavior (IRAB), established in 1965 under the direction of Donald R. Griffin. IRAB was jointly administrated by RU and the Zoological Society, and was the forerunner of Rockefeller's present-day Field Research Center at Millbrook, now directed by Fernando Nottebohm.

President Torsten Wiesel is opening the lecture to the public as part of his community outreach program. He will be on hand to welcome the speakers and guests.



No tricks, only treats: Members of The Children's School celebrated Halloween last Friday wearing hand-made costumes. Feathers, glitter, and fabric paint gave each costume a unique look.



See *Marathon*, Page 2

2 Special offer by Concert Series

3 Sex and the brain

4 Pre-Rockefeller days on the Upper East Side



## RU Concert Series to offer discount to newcomers

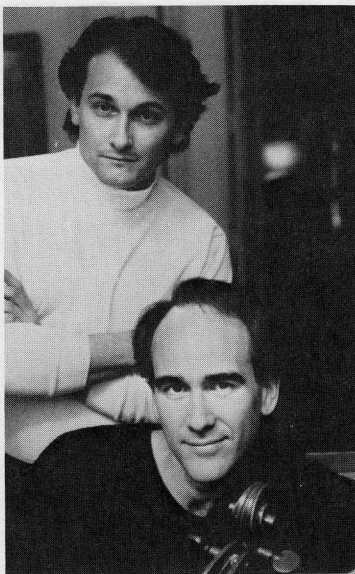
Thanks to a special arrangement with renowned artists and university sponsorship that first began in 1958, RU members have attended memorable performances in Caspary Hall at a reasonable price.

Next week, RU members who have not yet subscribed will have the opportunity to get a flavor of this year's Concert Series program at a discount. Tickets for the Nov. 11 and Dec. 2 concerts, reduced to \$7, will be made available for purchase at the Cashier's Office between 10-2 p.m. the day before and on the day of each concert. (This special offer is for the RU community only.)

On Wednesday, Nov. 11 at 8:00p.m., a concert from the B series will feature cellist Carter Brey, winner of the Piatigorsky Memorial Prize, and pianist Christopher O'Riley, winner of the Van Cliburn Competition. Carter Brey received his training in cello at the Peabody Institute and later studied with Aldo Parisot at Yale University where he was a Wardwell Fellow and Houpt Scholar. He will perform on a rare J.B. Guadagnini cello made in Milan in 1754.

Christopher O'Riley has fre-

quently performed as piano soloist with major symphony orchestras, including those of Baltimore, Boston, Los Angeles, Philadelphia, San Francisco, and St. Louis. The cello-piano duo will perform a wide-ranging program that includes



**Cellist Carter Brey and pianist Christopher O'Riley will perform at a concert from the B Series, Wed., Nov. 11 in Caspary Auditorium.**

works by Barber, Prokofiev, Janacek, and Brahms.

On Wednesday, Dec. 2, at 8:00 p.m. an A series concert will feature a father and daughter team with Pamela Frank on violin and Claude Frank on piano. In recent seasons, Claude Frank performed at Carnegie Hall with the St. Luke's Chamber Orchestra and at the Avery Fisher Hall for The Mostly Mozart Festival.

This year, Pamela Frank performed in the Beethoven Triple Concerto with Yo-Yo Ma and Peter Serkin at Tanglewood and is scheduled to play with the Boston Symphony Orchestra under Seiji Ozawa's direction.

On Dec. 2, the Franks will perform a Beethoven program that will include Sonata No. 4 in A Minor Op. 23, and Sonata No. 3 in G Major, Op. 30.

Members of Rockefeller University who are still interested in a Concert Series subscription may contact Cathy Rogers at x8971. Missed concerts will be taken into account. Seats are available on most concert nights and can be purchased on an individual concert basis. For information or reservations, call x8971.

## RU Computing Services workshops are a big hit

Response to the new Computing Services User Area and Classroom, which officially opened last month in a ribbon-cutting ceremony, (see N&N Oct. 9), has been very enthusiastic. All workshops were oversubscribed and, as a result, classes are now being devoted exclusively to those already on wait lists.

Those interested in computer classes must wait until January, when a new series of workshops will begin. Workshops will cover everything previously offered in September and October, as well as part III of all word processors, UNIX statistical courses, and special one-hour "drop-in" sessions on specific topics suggested by users, such as mail-merge in Word, Excel flow charts, file sharing, etc. Schedules will be announced in *News&Notes* and will be posted next to the classroom. Places will be filled on a first-come-first-served basis.

During workshops there is one Mac and one PC available outside of the classroom for those not participating in workshops. Users who want to use Macs and PCs in the classroom should call the consultant first for availability at x8940. Workshops will be held on the average of 4 times per week, usually between 10 a.m.-12 noon or 2-4 p.m.

## New York City Marathon

(continued from page 1)

only balloons.

Veteran runner and Physics Professor Konstantin Goulianos, ran his thirteenth NYC marathon this year and finished in 4hrs 10min, which he says was not such a good time. What brings

Goulianos back every year?

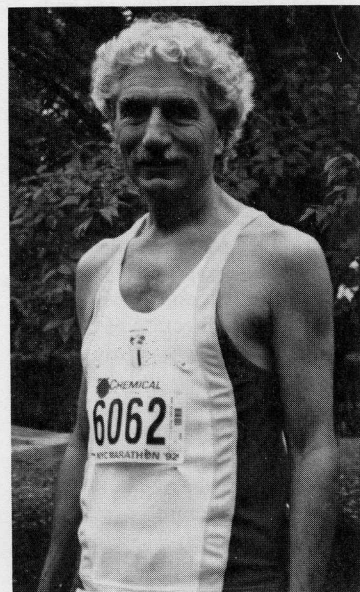
"Well," he explains, "I live right by the finish line, so I figure, if I'm not going to run it, what am I going to do, sit around and watch?"

"I think that my first marathon was a sort of exploration, to see if I could do it, reach the finish in one piece," says Goulianos, who is now 56. "Since then, it has become a focal point that guides my running throughout the year on both a physical and mental level."

Goulianos finds that his long distance running enables him to do all sorts of things, explore new cities, save on car rentals, and in one

instance, catch a mugger. He was training in Central Park when he heard a woman screaming for her purse. Goulianos saw the mugger and ran after him. "I'm a marathon runner," he yelled. "If you can't run 26 miles, you'd better drop the bag!" The mugger dropped the purse, and ran off.

Other marathon runners from RU were, from the Tomasz lab, Boudewijn de Jonge of Holland, Philippe Cottagnoud, Philippe Moreillon and his wife Martine, of Switzerland, and from the de Lange lab, first timer Henrik Tommerup of Denmark.



**Konstantin Goulianos (left) and Lenore Martin (right) make new strides at the New York Marathon,**

*News&Notes* is published each Friday throughout the academic year by The Rockefeller University, 1230 York Avenue, New York, NY 10021. Phone: 212-327-8967.

Torsten Wiesel, President  
Ingrid Reed,  
Vice President for Public Affairs and  
Corporate Secretary  
Doron Weber, Manager of Public Affairs

Mika Ono, Editor  
Jennifer Horne King, Assistant Editor  
Heather Leahy, Design  
Robert Reichert, Photography

Ideas and submissions can be sent interoffice (Box 68), by electronic mail (newsno), or by fax (212-327-7876).

The Rockefeller University is an equal opportunity/affirmative action employer.





# Sex and stress: it's in the brain

by Susan Blum

Remember the frog who turned into a prince? Neurobiologists take a different approach to the fairy tale than most people. As far as the scientists are concerned, the frog needn't have metamorphosed into a person to tell us something about human nature. On the contrary, their investigations are showing that studies of animal behavior can shed light on some of humanity's most fundamental mysteries.

One of the most intriguing questions of all is why men and women are different. Darcy Kelley discussed that topic at a recent gathering of the Rockefeller University Council. Kelley, Professor of Biological Sciences at Columbia University, was a graduate student and postdoc at Rockefeller.

Her current studies focus on the courtship behavior of *Xenopus laevis*, a species of African clawed frog. Because the behavior of males and females is dramatically different, she said she can "take it apart just the way a watchmaker would, and figure out how it works." Discovering what makes frogs tick should help us understand our own species, she said, for "although the behavioral difference is exaggerated in the frog, it will probably have the same rules, the same 'flavor,' as the sex differences in our own lives."

## The male sings a love song

To woo potential mates, adult male frogs croon a fast, whirring "courtship song." Unwilling females signal "get off my back" by making a slow clicking sound that is very different from the males' song. Willing females, on the other hand, don't sing in response; they communicate their willingness to mate in other ways.

This behavioral difference, or dimorphism, is controlled entirely by the frog's male sex hormones, Kelley told council members. Very early in frog development, males and females are indistinguishable. But once genetic instructions on the male chromosome direct the development of the testis, that organ begins to produce male hormones, or androgens, that send the male on his unique developmental path. Among the changes are a distinctively-male "song circuit," characterized both by a particular type of neural connections linking song-control areas in the brain with the muscles of the larynx, and a particular muscle type in the larynx itself.

Hormones are not only important in development; they continue to affect brain and behavior throughout the life course of the frog — and

of all other animals, too. For instance, both adult male frogs and adult male song birds sing only in certain seasons, not all year round. This cyclical behavior is best understood in the song bird, where Rockefeller's Fernando Nottebohm has shown that seasonal changes in the level of male hormones prompt the cyclical growth of song-control centers in male birds' brains.

Kelley stressed that the brain/behavior relationships mediated by hormones are a "two-way street." Hormonally-directed differences in brain structure may affect behavior, but behavior may also work through hormones to affect the brain. This is exactly what happens in *Haplochromis butoni*, a tropical fish studied by Russell Fernald at Stanford University.

Male fish of this type fall into two groups: aggressive, territorial fish who father most of the offspring, and shy, retiring fish who mate rarely, if ever. Their different behavior is reflected in their brains: areas of the hypothalamus, a region of the brain, are larger in aggressive males than in retiring ones.

## Behavior can change

Though these differences are striking, they are not immutable. A non-aggressive male fish can be transformed into an aquatic Schwarzenegger merely by putting him alone in a tankful of females. Along with behavioral changes comes an enlargement of his hypothalamus, Kelley recounted. These changes, mediated by changing levels of circulating hormones, illustrate how "hormones are a kind of transducing signal between the outside and inside world. They're a way that experience can act on brain structure and function."

Bruce McEwen, Professor and

Dean of Graduate and Postgraduate Studies, described another way experience can affect the brain. Work in his lab has shown that excess or prolonged exposure to stress hormones can harm the brain.

The culprits are the corticosteroids, stress hormones produced by the adrenal glands. Researchers in McEwen's lab have found that when rats are exposed to high levels of adrenal steroids, nerve cells in the hippocampus — a brain region important for learning and memory — suffer a loss of dendrites, nerve cell extensions that receive input from other nerve cells. If the levels of stress hormones remain elevated for long periods of time, the nerve cells themselves are permanently lost.

Remarkably, though, the damage is not the same in both sexes. Preliminary results from researchers in Japan indicate that, unlike males, female rats are resistant to stress-induced cell loss. This protection seems unrelated to the presence or absence of circulating estrogen, a female sex hormone. Among male rats, however, those who were castrated (and thus had no testosterone, a male hormone) suffered greater stress-induced damage than males exposed to testosterone.

"This observation suggests that the brains of female rats are intrinsically protected against certain kinds of stress," said McEwen.

## Disease incidence differs

The difference in male and female response to stress hormones was just one of the sexual dimorphisms McEwen discussed. He also pointed out that some conditions and diseases predominate in men, while others are more common in women. Males, for instance, are at greater risk for developmental learning disorders such as autism, delayed speech development, dyslexia, and stuttering. Females, on

the other hand, are more susceptible to depression and anxiety disorders. In schizophrenia, where the overall incidence of the disease is the same in both sexes, men tend to develop severe cases earlier in life; in women, the disease progresses more slowly.

McEwen said the effect of sex hormones before and right after birth, and the continuing influence of circulating sex hormones throughout life, may contribute to many of these different disease profiles. For instance, the action of testosterone on a male baby's brain may help explain males' greater propensity for certain developmental disorders. The hormone may be partly responsible for the fact that—on average—a region of the corpus callosum is smaller in males than in females. The corpus callosum, a bundle of nerve fibers, connects the two cerebral hemispheres. With fewer such connections, males may be less able than females to compensate for brain abnormalities or injuries that contribute to certain disorders.

Circulating estrogens may also play a major role in sex differences in disease. For instance, studies in McEwen's lab have shown that when the ovaries of female rats are removed (a "surgical menopause" that deprives them of estrogen), the number of nerve-to-nerve connections in the hippocampus declines. These connections, or synapses, can be restored by giving replacement estrogen. Estrogens have also been shown to have additional biochemical and physiological effects in other regions of the brain.

Such findings have important implications for the treatment of a number of diseases. For example, there are tantalizing indications that estrogen replacement therapy may improve the mental status of women with Alzheimer's (but not that of men). On the other hand, it has been known for some time that giving estrogen to postmenopausal women with Parkinson's disease exacerbates their symptoms. It is also known that estrogens act synergistically with the drugs given to treat schizophrenia and depression, so that a woman's hormonal status should be assessed before an optimal dose can be prescribed.

The effects of sex and stress hormones on the brain are varied and complicated. Much more must be learned about the action of the hormones and the brain regions they act upon. But as the understanding grows, the possibilities for therapeutic advances becomes ever more promising.



Darcy Kelley and Bruce McEwen presented talks on sex and the brain at a recent Rockefeller University Council meeting.



# The Rockefeller site: back to the Future

by Renee Mastrocco

*Through historical records, maps and pictures concerning the Rockefeller site, archivist Renee Mastrocco has pieced together a sketch of the land on which the Rockefeller Institute for Medical Research was founded.*

The history of the Rockefeller University site can be traced back over three hundred years. The earliest record pertaining to this area is a deed of land dated March 24, 1676 patented by Governor Sir Edmund Andros to Cornelius Mattysen. Mattysen's plot was comprised of 60 acres, "being in breadth by the river eighty rods and in length one hundred and twenty rods," between 64th and 70th Streets north of Turtle Bay [46th and First

Avenue]. The land granted to Mattysen was then divided between Johannes Hardenbrook, whose farm occupied the "lower" 30 acres, and John Jones who added the northerly portion to his farm.

In 1817, when John Hardenbrook's widow, Ann, died, the Hardenbrook plot was

deeded to New York Hospital. In 1818, Peter Schermerhorn Jr. purchased 20 acres from the hospital adding this tract to his holdings, known as "Belmont Farm". His latest acquisition extended his property so that it encompassed Third Avenue to the East River and 64th to 75th Sts.

The Schermerhorn farm house, built in 1747 by carpenter John Hardenbrook, overlooked the East River at 64th Street. The house assumed the Schermerhorn name when it was purchased in 1803 by Peter Schermerhorn, who resided in it until about 1860.

August Braun, a German immigrant rented the farm house from the Schermerhorns, and remained there thirty years.

In 1903, John D. Rockefeller Sr. purchased the Hardenbrook tract of land from Schermerhorns' heirs and deeded it to The Rockefeller Institute for Medical Research. The Schermerhorn's farm house

remained on the Rockefeller site, despite the construction of the Institute's first building (Founder's Hall) in 1904.

A record dating from 1903 describes the Schermerhorn farm house as "a distinct type of colonial home... with its pointed gables, wide porch and tall chimneys," and the first photos show chickens, goats, and cows grazing in its shadow. Other accounts refer to the house as "the old Dutch Mansion" which faced a square known as "The Parade."

Newspaper articles dating from the time of the Rockefeller purchase in 1903 state that after the Revolutionary War (1763-1783), the farm house was the summer residence of Governor Dewitt Clinton who was New York State's first governor and later became United States vice president. However, there is no documentary evidence to support this claim. Nor is there any evidence to support the account that George Washington visited the Clintons at that house. The Schermerhorn farm house was eventually demolished in 1914.

The Jones' Woods, situated north of the Schermerhorn farm house, extended from 66th to 75th Street. In 1803, it had become a



The Schermerhorn Farmhouse, circa ?.

popular recreational area noted for picnics, musical programs, and shooting clubs. The famous "Caledonian Society" held its annual festival here, attracting large numbers of people from around the New York area.

From the 18th through the 19th century, country estates of the wealthy dotted the East River shoreline above 42nd St. By the 1860's, with the advent of industrialization, these were gradually replaced by breweries, lumber mills, and coal yards. Immigrants from Germany, Ireland, Prussia, Hungary, Russia, and Bohemia became the new residents of the neighborhood.

Anchored by the Rockefellers' continued commitment to the Institute, and by the Institute's growing success, the Rockefeller site remains to this day a fixture of what we now call the Upper East Side.



From left to right: The Schermerhorn farmhouse, RU Hospital, and Founder's Hall in 1913.

## Potpourri

### Tri-Institutional Noon Recital

Andy Statman, an international virtuoso on both clarinet and mandolin, has appeared on over 60 record albums of jazz, bluegrass, klezmer, rock, and Middle Eastern and Western classical music. Drummer Ron Glick and keyboardist Mitch Schechter, join Andy to perform jazz based on traditional klezmer and Chassidic melodies at The Tri-Institutional Noon recital today (Nov. 6). The recital, to be held in Caspary Auditorium at noon, is free and open to the Tri-Institutional community.

### Thanksgiving luncheon

The annual Thanksgiving luncheon with price-fixed menu will take place on Wed., Nov. 11, in the Cafeteria and 17th floor dining area. Reservations are recommended for the 17th floor dining area (coupons only please). For reservations, call x8890. There will be free turkeys for those with specially marked plates.

### Lecture

Robert B. Gibbs, assistant professor in the laboratory of Neurobiology and Behavior, will give a lecture entitled "Physiological Effects of Nerve Growth Factor in Brain" at the New York Academy of Sciences (2 East 63 St), on Tues., Nov. 10 at 7 p.m..

### Promotion

Vijaykumar Pancholi, Fischetti lab, from Research Associate to Assistant Professor.

### Appointments

Assistant Professor: Gord Fishell, Hatten lab.

Adjunct Faculty: Jingwen Zhang, Mauzerall lab.

Visiting Professor: Nicola Tavoloni, Hanafusa lab.

Research Associate: Michael Rubin, Greengard lab.

Postdoctoral Associate: Benjamin Benton, F. Cross lab; Mark Blight, Simon lab; Genhong Chen, Baltimore lab; Kelvin Paul Davies, G.A.M. Cross lab; Ernest Martinez, Roeder lab; K. Migler, Simon lab

## Thom Hunter (1950-1992)

Thom Hunter, director of development communications for The Rockefeller University since 1983 and author of short stories, died of AIDS-related causes November 1. At Rockefeller, Hunter was responsible for publications, proposals, speeches, and reports used in the university's fund-raising efforts. He came to RU from New York University development office and alumni fund.

Hunter was born in 1950 in Toronto, Ohio, the son of a steelworker and secretary. He began writing fiction in earnest in 1987;

his first published short story appeared in Long Shot, in 1990. Since then his stories have been published or scheduled for publication in The Guide, Crazy Quilt, Chapter One, Karamu, and Poetic Space. A book of his short stories, Translucent Blues, will be published by Los Hombres Press of San Diego, California.

Thom Hunter is survived by his companion, Dominic Ianno, and his parents, Clarence and Margaret Hunter of Toronto, Ohio, and his brother, Terry Hunter, of Honolulu.

Postdoctoral Fellow: Donald Arnold, Heintz lab; Tian-Quan Cai, Steinman lab; Heike Endemann, Model lab; Hanns Frohnmeier, Chua lab; Kim Hunter, Hatten lab; Hang-Chul Kang, Tuomanen lab; Felix Kessler, Blobel lab; Raphael Mayer, Chua lab; Carol Novotney, Hayre lab; Philippe Rousselot, Nottebohm lab; Barbara Spellerberg,

Tuomanen lab; Horoshi Yamagata, Chua lab; Cassia Thais Zaia, McEwen lab

Guest Investigator: Yohanns Bellaiche, Desplan lab; M. Angeles Dominguez, Tomasz lab; Chun-hai Dong, Chua lab; Jens Sandros, Tuomanen lab; Guang Lin Yin, R. Darnell lab; Dimas A.M. Zaia, Merrifield lab