11 02

THE PRESIDENT'S REPORT OF THE SALK INSTITUTE FOR BIOLOGICAL STUDIES

INSIDE SALK

Sydney Brenner Receives Nobel Prize

Sydney Brenner, a distinguished professor at the Salk Institute for Biological Studies, is one of three recipients of this year's Nobel Prize in physiology or medicine for his contributions toward discoveries about how genes regulate organ growth and the process of programmed cell death.

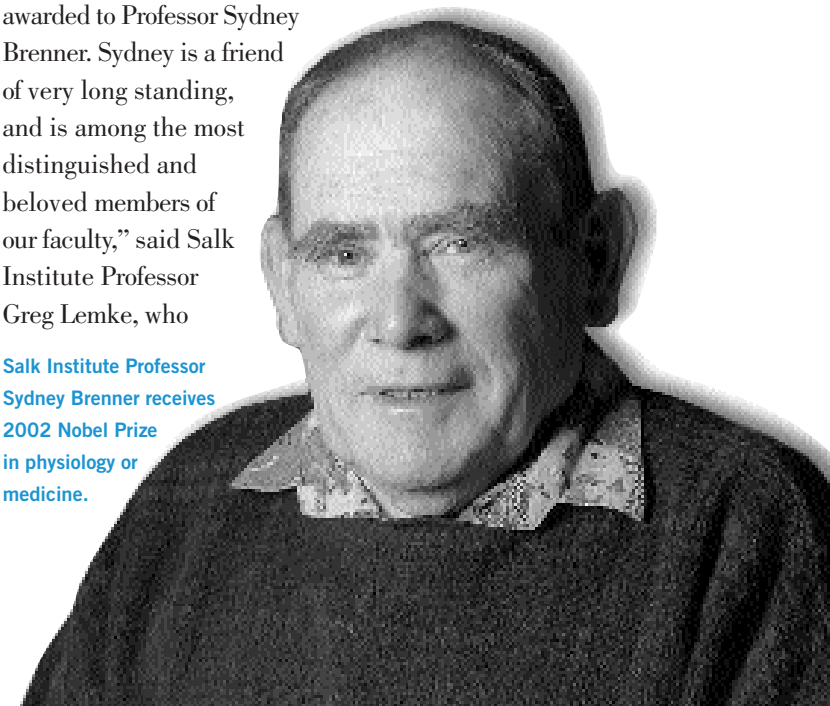
Sydney showed that the tiny transparent worm *C. elegans* was useful for studying how cells specialize and organs develop. His work "laid the foundation for this year's prize," the awards committee said.

During his distinguished career, he also demonstrated that a chemical could produce specific genetic mutations in the worm, allowing different mutations to be linked to specific effects on organ development. The work of Sydney and this year's Nobel laureates in medicine has implications for understanding a range of diseases, including cancer, AIDS, strokes, and neurodegenerative diseases.

"My colleagues and I at the Salk Institute are delighted at the news that this year's Nobel Prize in physiology or medicine was awarded to Professor Sydney Brenner. Sydney is a friend of very long standing, and is among the most distinguished and beloved members of our faculty," said Salk Institute Professor Greg Lemke, who serves as chair of the faculty.

"Sydney is also a giant of twentieth century biology, whose visionary thinking continues to drive experiments in laboratories around the world. Sydney was often referred to as the 'brightest person not to have won a Nobel Prize.' With the Nobel Committee's announcement, he no longer holds this distinction."

In the early 1960s, Sydney established the existence of messenger RNA, or mRNA, which can be translated into proteins, and >>



Salk Institute Professor Sydney Brenner receives 2002 Nobel Prize in physiology or medicine.

demonstrated that the nucleotide sequence of mRNA determines the order of amino acids in proteins. For these discoveries in 1971, Sydney received his first Lasker Award, sometimes referred to as "America's Nobels," in Basic Medical Research. He received a second Lasker Award in 2000.

Among his other notable advances, Sydney — with Salk Institute Distinguished Professor and Nobel Laureate Francis Crick — proposed that a single amino acid is coded by three nucleotides of RNA.

While at the Salk, which he joined in 2000, Sydney has been studying vertebrate gene and genome evolution, where he developed new ways of analyzing gene sequences, offering new understanding into the evolution of vertebrates.

Born in 1927 in Germiston, South Africa, Sydney was awarded degrees in medicine and science in 1947 from the University of Witwatersand in Johannesburg. He subsequently moved to England where, in 1954, he received a D.Phil. in chemistry from Oxford University. In 1957, he joined the Medical Research Council in Cambridge, England. There, he became director of the Laboratory of Molecular Biology and the Molecular Genetics Unit.

"Sydney was often referred to as the 'brightest person not to have won a Nobel Prize.' With the Nobel Committee's announcement, he no longer holds this distinction."

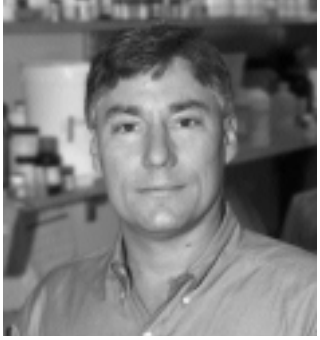
Professor Greg Lemke

From 1981-1985, Sydney served as a non-resident fellow at the Salk Institute; from 1989-1991, he was a scholar-in-residence at the Scripps Research Institute. In 1996, he became president and director of science at the Molecular Sciences Institute in Berkeley, California. He is a member of the Royal Society of London, is a foreign associate of the U.S. National Academy of Sciences, and is an adjunct professor of biology at the University of California, San Diego.

The Nobel Prize will be formally presented Dec. 10 — the anniversary of the death of Alfred Nobel who established the awards — in Stockholm. It carries a cash award of about $1.1 million. It will be shared equally among the three scientists. Sharing this year's prize with Sydney are John E. Sulston from the United Kingdom and H. Robert Horvitz from the United States. Horvitz, 55, is at the Massachusetts Institute of Technology. Sulston, 60, works at the Sanger Center at Cambridge University; he studied at the Salk Institute as a postdoctoral student under Salk Professor Leslie Orgel.

Rick Bushman

Ed Callaway

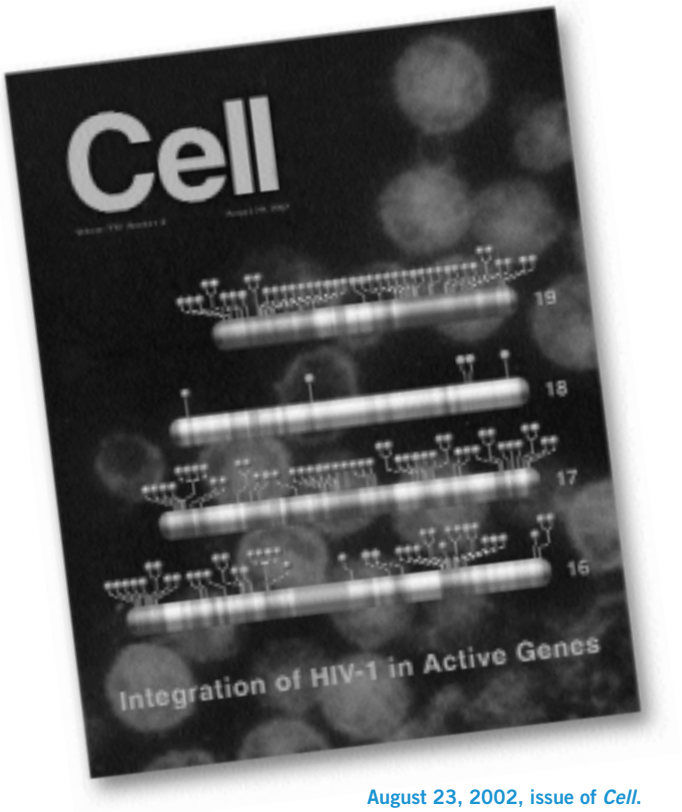


Dennis O'Leary

On the Covers

Compelling research studies by Salk investigators — related to the connection between the eye and the brain, the replication of the HIV virus, and the function of "blue" cones in the eye — have been featured on the covers of two major scientific journals.

In the August 2002 issue of *Neuron*, Dennis O'Leary, Salk Institute professor of molecular neurobiology, was the senior author of an article that revealed a crucial piece of the puzzle into how the eye becomes wired to the brain. Dennis and researchers at UT Southwestern Medical Center at Dallas found that a certain class of Eph receptors and ephrin ligands — proteins that cause cells to either repel or attract each other — control how nerve connections from the developing eye form maps that present what we see to visual centers in the brain.



August 23, 2002, issue of *Cell*.

In the August 23, 2002, issue, of *Cell*, Salk researcher Frederic Bushman, an associate professor in the Infectious Disease Laboratory, concluded that HIV selectively inserts itself into active areas of a host cell's genome. The fact that the virus hooks itself up to areas of the cell's genome that are busy expressing themselves may help explain why HIV can reproduce itself so rapidly.

In the September 12, 2002, issue of *Neuron*, Ed Callaway, an associate professor in the Systems Neurobiology Laboratories, and graduate student Soumya Chatterjee, found that short-wavelength sensitive (S) "blue" cones in the eye do play a role in low-contrast vision. They found that activity of neurons in the magnocellular visual pathway, which is specialized for detecting low-contrast stimuli, could be driven by visual stimuli that modulate only blue cones, but not "red" (long-wavelength) or "green" (middle wavelength) cones. It had long been asserted that the magnocellular visual pathway received input from red and green, but not blue cones. Ed and Soumya learned that blue cones provided about 10% of the input to magnocellular neurons, on average.

Award-winning Salk Institute illustrator Jamie Simon provided the artwork for the cover articles by Bushman and Callaway.

9/11 Memorial

On September 11, they gathered in the Frederic de Hoffmann Auditorium — faculty, staff, postdoctoral students, and friends of the Salk — to reflect on a powerful day in the history of America.

"The crimes of September 11, in my view, were only possible when the people who perpetrated those acts came to outweigh their basic instincts that people in those buildings were going to die," Salk professor Greg Lemke, who serves as chair of the faculty, told the audience. "What we do here at the Salk is something that appeals to a basic instinct common to all human beings — a curiosity about life, a common basic desire to find out how things work."

Dirk Buscher, a Salk postdoctoral student from Germany, brought an international perspective to the memorial. "I hope that this day, September 11, will not be a day of blind hateful revenge," he said, "but a day to grieve and a day to reflect — that is what we owe the victims of September 11."

For Elaine Stevens, a native New Yorker who has worked at the Salk in various administrative roles for more than two decades, the events of 9/11 had a profoundly personal impact. "The Salk is a very special place, which has always felt to me like a family made up of a diverse group of people with one thing in common — their humanity. The men and women who lost their lives on September 11, 2001, serve to remind us that the world is a dangerous place, that evil will always hover over us and we must be mindful and vigilant. But we are also reminded that kindness, compassion, love, spirituality, keep us unified and are the only way to withstand the evil," Stevens told her colleagues.

Alex Butterfield, a longtime friend of the Salk who served as a deputy assistant to President Richard Nixon, has witnessed many disconcerting events in his extensive political career. And yet he was able to bring hope to the audience at the end of the memorial. "9/11, as horrific as it was, gave us a new awareness of other individuals as persons like ourselves. It makes us more considerate of each other than we were before."

Exploring Intellectual Property

■ The Office Of Technology Management (OTM) has started a new discussion program on campus to inform the Salk Institute community about intellectual property issues. Intellectual property advances the Institute's mission to improve human health by transferring basic research discoveries made in the laboratories to the marketplace for commercial development.

The first "Lunch and Learn" program, held on September 26 and entitled "Why Patent?", focused on how researchers and the Institute benefit when discoveries are patented and commercialized. Michael White, Ph.D., senior licensing executive in OTM, presented an overview of licensing, the pathway basic research takes to commercialization, royalty and milestone payments, distribution of monies earned from the license agreement to laboratories and researchers, and U.S. government policies on licensing technology supported by tax dollars.

Future Lunch and Learn programs will include an in-depth look at patents and the patenting process. Topics will range from "Can animals, plants and genes be patented?" to "Protecting Technology Outside the United States."

DEVELOPMENT NEWS

$2.25 Million Grant Nurtures Genetics and Cell Biology Research

The Wayne and Gladys Valley Foundation has awarded a $1 million grant to the Salk Institute for gene therapy research under the direction of Inder Verma, professor in the Laboratory of Genetics.

With the help of past support from the foundation, Inder and his colleagues have generated vectors that can carry genes into cells. The researchers will now be able to use these vectors to learn more about degenerative eye diseases, diabetes, neurological and metabolic diseases, and male infertility, as well as certain types of cancer.

An additional $1.25 million grant was awarded to support the new initiative in cell biology. This money will be used to renovate space and to purchase equipment that will be used by faculty in the molecular and cell biology laboratory.

Hearst Grant Supports Genome Research

The Directors of the William Randolph Hearst Foundation awarded a $1 million grant to increase the Hearst Endowment at the Salk Institute. Earnings from the Hearst Endowment will support the development of Salk's new programs and the recruitment of new faculty involved in genome-based research.

Thomas Eastham, the foundation's vice president and western director, expressed the foundation's eagerness to support Salk research that holds promise for future diagnoses, treatments, and cures of human disease.

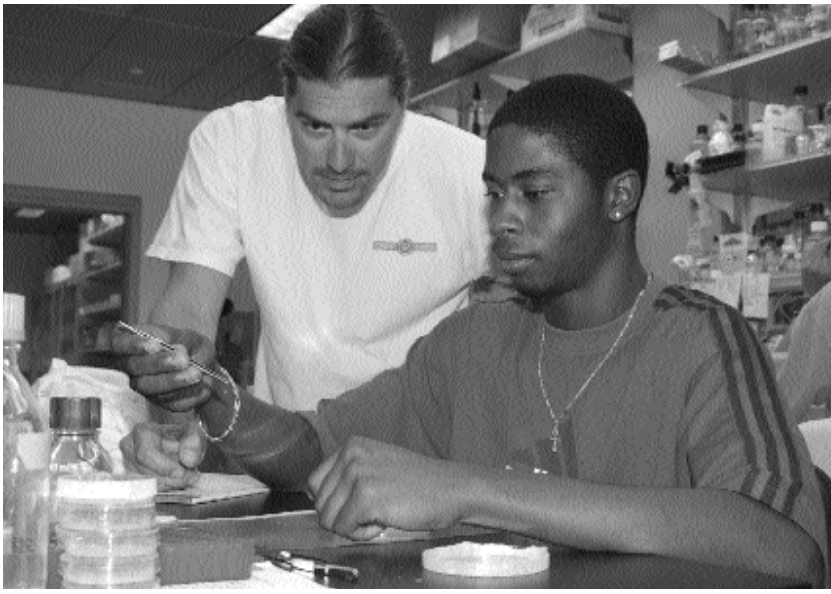
Congressional Staff Visit the Salk Institute

■ On August 15, a group comprising legislative staff personnel and industry consultants visited the Salk Institute for a morning of briefings on four key topics: stem cells, gene therapies, AIDS, and biological warfare.

Faculty members presenting at the briefings included Rusty Gage, Inder Verma, Ned Landau, and Rick Bushman. The visit was organized by the California Healthcare Institute, which represents more than 200 for-and non-profit entities in California, including the Salk Institute, in state and federal matters that directly and indirectly impact research and the biotechnology industry.

The Backbone of the Salk

■ Administrative assistants from both the research and administrative departments were honored at a luncheon recognizing their contributions to the Salk on September 18th. Future quarterly luncheons are being planned to provide the Salk's administrative assistants an opportunity to network with each other and take advantage of the wealth of talent, experience, and skill of their peers. Other plans include a newsletter and database to provide information, support, and camaraderie among the administrative assistants.



Summer program students gain exposure to the broad scope of research at Salk.

Summer Program at the Salk

■ Students from throughout the San Diego area gathered at the Institute in July to participate in the 33rd annual Summer Program at the Salk. Although the program has evolved over the years, the fundamental purpose remains consistent with founder Jonas Salk's vision of providing an opportunity for local San Diego-area high school and college students to participate in hands-on laboratory experiences under the mentorship of a Salk investigator.

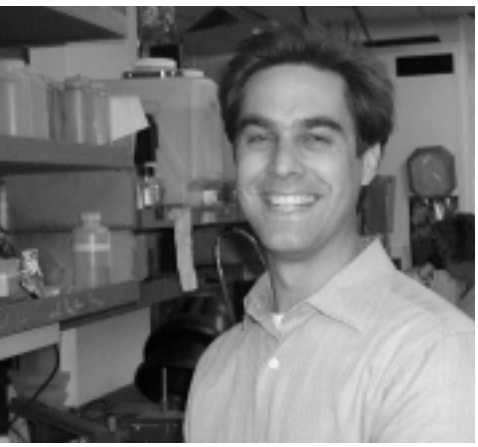
The program consists of an eight-week full-time research project as well as various enrichment activities. Students learn how to formulate hypotheses, prepare and execute experiments, test the hypotheses, and ultimately draw conclusions from their results. In addition to their individual projects, they learn skills ranging from maintaining laboratory notebooks to participating in regular lab meetings and group discussions.

Through these experiences, students gain an appreciation for the overall biomedical research environment and are exposed to the broad scope of research and careers at Salk. At the end of the eight-week program, students invite their mentors, lab members, and families to a presentation of their research projects.

The Summer Program at the Salk is one of several education outreach activities the Institute supports in the community. The program is administered through the Human Resources Department and is coordinated by Human Resources Representative Ingrid Johnson under Director of Human Resources Beth Alton. Salk faculty members Geoff Boynton, Joanne Chory, Tony Hunter, and Fred Gage, as well as Vice President for Academic Affairs Bruce Stevenson, play a major role in the program.

New Faculty

Two new faculty members joined the Institute in September



Andrew Dillin

James Umen

Andrew Dillin joins the molecular and cell biology laboratory as an assistant professor. Prior to joining the Institute, he was a postdoctoral fellow in Cynthia Kenyon's laboratory at the University of California, San Francisco, where he studied what determines longevity, using the nematode *C. elegans*.

Andy brings his interest in aging and neurodegeneration to the Salk Institute, and plans to continue working with *C. elegans*, particularly on elucidating the signaling pathways inside cells that regulate lifespan. The first multicellular organism to have its entire genome sequenced-initiated 20 years ago — by now Salk faculty member and Nobel Laureate Sydney Brenner — *C. elegans* has become one of the best experimental systems for asking fundamental questions about the genetic control of biological processes.

By further understanding the process of aging in this simple organism, Andy hopes to provide clues that lead to a better understanding of human diseases associated with aging, such as cancer, diabetes, and neurodegenerative diseases.

Andy received his B.S. in biochemistry from the University of Nevada, and his Ph.D. in molecular and cell biology from the University of California, Berkeley, in 1998.

James Umen joins the Institute as an assistant professor in the plant biology laboratory. His research interests center around how cells coordinate growth and division to maintain a consistent size. Prior to joining the Institute, he was a postdoctoral fellow in the laboratory of Ursula Goodenough at Washington University in St. Louis, where he began working with the unicellular green algae *Chlamydomonas reinhardtii*.

Despite the fact that the cells range in size over several orders of magnitude, any single cell type in a particular species will always stay within a very narrow size range. Cell size is normally maintained by a close relationship between growth and division: cells must grow to a certain size in order to divide, and once a certain size is reached, division is triggered.

Chlamydomonas provides an important model for understanding this process. Under certain conditions, *Chlamydomonas* cells will break the "standard" rules and grow extremely large without dividing. But these large cells later divide multiple times to produce normal-sized daughter cells. A pertinent question is how the extra-large cells determine their size and divide the appropriate number of times.

The fundamental similarity between the cell-division control process in humans and *Chlamydomonas* suggests that research on *Chlamydomonas* will contribute unique insights into understanding cell division and cancer.

Jim studied biology at Stanford University, where he received his B.S. in 1987, and pursued a Ph.D. in genetics in the department of biochemistry and biophysics at the University of California, San Francisco. He received his Ph.D. in 1995.

Comings & Goings

Robert Bradford has joined the Salk's Institute Relations Office as senior director of communications. In this new position, Robert will work to enhance communications with key Salk constituents and increase the visibility of the Salk on the local, regional, national, and international levels.

Robert Bradford

A native Californian, he brings more than 15 years of communications experience to the Salk. Previously, he was chief executive officer of BrilliantContent, a communications consulting and website development company based in Chapel Hill, North Carolina. The company served clients in higher education and health care, with an emphasis on science communications.

Judy Hodges

In the 1990s, Robert served as director of communications for development and alumni affairs at Duke University Medical Center and executive director of communications at the University of the South in Sewanee, Tennessee. He has been a journalist in Texas and California as well as a college English professor and has received numerous awards for his work from the Council for Advancement and Support of Education (CASE) and United Press International. He earned his bachelor's degree in rhetoric, with highest honors, from the University of California, Berkeley, and his master's degree in American Studies from the College of William and Mary.

Judy Hodges has joined the Salk's Institute Relations Office as director of annual giving. Judy will be responsible for building individual charitable giving and formalizing the annual giving program to help cover annual research costs, especially the costs of early-stage, high risk research.

Prior to coming to the institute, Judy was director of development at the Parker School in San Diego. At Parker, she developed the school's annual giving and alumni programs and launched its first formal capital campaign. Judy has served in the departments of State and Defense in Washington, D.C., and overseas. She received her bachelor's degree from George Washington University in Washington, D.C.

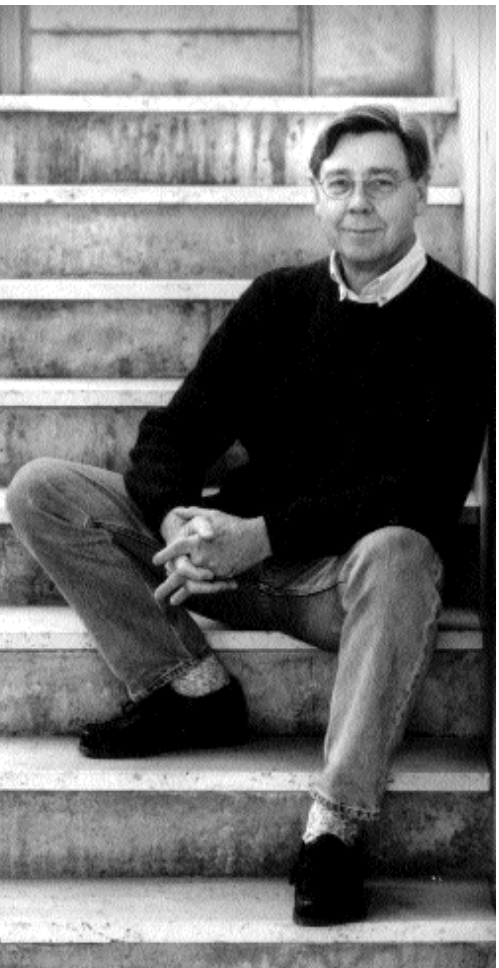
Warren Froelich, who served as director of communications since joining the Institute in 1998, has resigned to take a position as director of communications at the American Association for Cancer Research in Philadelphia.

During Warren's tenure at the Salk, he redesigned the Salk *Signals* magazine, turning it into an award-winning publication. *Signals* received several awards from the Public Relations Society of America. He also was instrumental in developing the Institute's new publication *Inside Salk,* and worked with the Scott Thornley Group on a branding identity for Salk's new logo.

We wish Warren every success in his new position.

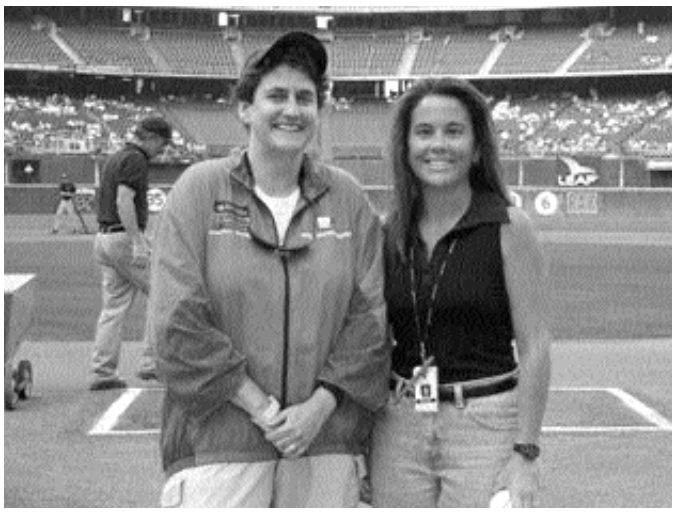
Awards & Honors

Ronald Evans is one of five recipients of the 2002 City of Medicine Awards from Durham Health Partners, Inc. The City of Medicine program honors individuals or organizations who have made extraordinary contributions to medicine in the public interest. Ron, a professor in the Salk Gene Expression Laboratory, was recognized for his isolation of the human thyroid receptor and contributing to the understanding of the underlying mechanisms of multiple human hormones. Each scientific honoree receives a $5,000 honorarium, a handcrafted crystal obelisk, and a citation, presented October 10 in Durham, North Carolina. The City of Medicine is a non-profit community-service program founded in 1981 to recognize and promote the continued growth and development of Durham — a city where one in three workers is employed in a medical or health-related job.



Wylie Vale, professor and head of the Clayton Foundation Laboratories for Peptide Biology at the Salk Institute, is the first laureate of the Foundation Ipsen Prize.

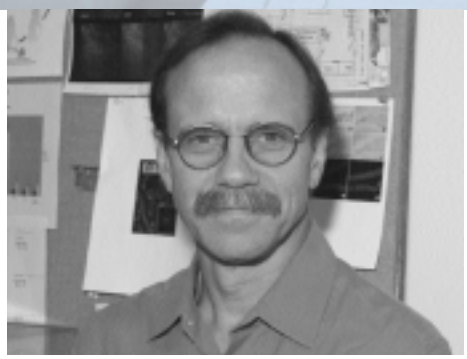
Established in France in 1983, the Foundation Ipsen contributes to the sharing of scientific knowledge between research scientists and clinicians. The foundation has a wide-ranging focus, from studying the aging of populations around the world to understanding genetics and microbiology.



Susan Forsburg, (above, left) a Salk associate professor in the Molecular Biology and Virology Laboratory, was honored by the San Diego Padres as a "Medical All-Star" during a Padres game in August. Susan was nominated for this honor by the San Diego Chapter of the Leukemia and Lymphoma Society. The Padres organization, as part of their fight against cancer, "recognizes local physicians or scientists throughout the season for being unsung heroes dedicated to the treatment of this disease."

SALK IN THE NEWS

Matthew Weitzman



Fred Gage

Marguerite Vogt

■ A report by **Matthew Weitzman** describing a possible mechanism for how viruses can trigger tumors appeared in the July 18 issue of the journal *Nature*. It spawned a variety of news stories, including the *San Francisco Chronicle, Newsday,* the *San Diego Union-Tribune*, the *La Jolla Village News*, and *Biotechnology Newswatch.* His research shows that adenoviruses — the viruses that cause the common cold — can disrupt a cell's vital DNA-repair system, leading to tumor formation long after the virus itself is gone.

■ *Lifewatch*, the continuing series of columns written by Salk scientists for the Quest section of the *San Diego Union-Tribune*, included a June 12 column by **Sumita Anant,** a postdoctoral fellow in the Clayton Laboratories for Peptide Biology. Sumita's column described synapses between neurons and nerves and muscles, and potential therapies for synapses gone wrong.

■ **The Salk Institute's** important role in the region's signature architecture was featured in the September 22 issue of the *San Diego Union-Tribune's* Home section. According to the article, the Louis Kahn-designed Salk Institute will be featured in *San Diego Architecture*, a full-color book scheduled to be published in December.

■ *U.S. News & World Report* asked Salk neuroscientist **Fred Gage** to comment on the actor Christopher Reeve's renewed sense of feeling and movement in his arms and legs. Rusty showed two years ago that exercise enhances the growth of new cells in adult brains. "It's clearly a function of activity," Gage said of Reeve's important improvements. "The demonstration that it can happen is at least a starting point."

■ **Sydney Brenner** was named one of *Discover* magazine's "20 Biotech Geniuses to Watch" in the magazine's June 2002 issue. The article profiled 20 visionaries who have their feet in both academic research and the biotechnology industry. Others included Tom Cech, president of the Howard Hughes Medical Institute: Craig Venter, former CEO of Celera; and Eric Lander, director of the Whitehead Institute/MIT Center for Genome Research.

■ The *San Diego Union-Tribune* published a major feature on the life and achievements of pioneering Salk professor **Marguerite Vogt.** The story focused on Marguerite's seminal contributions to the polio vaccine and cancer research as well as her accomplishments as a classical pianist.

■ A *Wall Street Journal* article on ferreting out terrorists by watching their body language mentioned **Terry Sejnowski's** work on teaching computers to watch for detailed facial language clues in psychiatric patients. The article said Terry is applying for grants to commercialize his research prototype but notes that he is "less eager to see it used in security, fearing it 'could be misused.'"

■ The *San Diego Union-Tribune's* Lifestyle section highlighted this year's Symphony at Salk. The August 30 article touted the "gorgeous music" and included the names of some of the guests.

■ A June 6 article in the *La Jolla Light* featured **Inder Verma's** research on using gene therapy to reverse infertility in male mice.

More than 800 people attended the 2002 Symphony at Salk.

Strauss Under the Stars

■ Seated in the Theodore Gildred Courtyard under a starlit night, more than 800 guests enjoyed the 7th annual Symphony at Salk.

Led by special guest conductor Paul Polivnick, with soloist and duet performances by Indira Mahajan, *soprano* and Kevin Deas, *baritone*, the San Diego Symphony performed pieces from Rossini, Puccini, Handel, Mozart, Strauss, and Gershwin.

"Symphony at Salk is a wonderful occasion for longtime Salk supporters and those who are new to the Salk to get together and enjoy good music under the stars," says Betty Vale, event chair. Internationally renowned artist Françoise Gilot-Salk is honorary chair of this popular Salk concert, and Gilot-Salk's artwork provides the event's visual theme.

Gilot-Salk and Vale recognize the many underwriters, donors, and volunteers that it takes to make this event happen annually. The event provides important support for research programs and activities at the Institute.

International Council Welcomes Seven New Members

■ Seven distinguished individuals have been named to the Salk Institute International Council. The council supports the Salk in myriad ways, from increasing public awareness about the Institute's mission to attracting private support among donors, foundations and corporations.

Rudolph Theodore (Ted) Haas III and **Terri Rae Haas** bring a wealth of experience and tradition to the council. Ted is an attorney in private practice in the San Diego area. He received his bachelor's degree from the United States International University and his J.D. from California Western School of Law. A member of the San Diego Bar Association, a member of the Aviation Division of the San Diego Railway Historical Society, and editor of La Mesa Model Club "Callboard," Ted is the son of Salk trustee Betty Knox. Terri Haas attended San Diego State University and is a volunteer in organizations throughout the San Diego area.

Daniel Kisner is chairman of the board of Caliper Industries, a leader in lab-on-a-chip technologies based in Mountain View, California. Dan served as Caliper's president and chief executive officer from February 1999 until July 2002 and has served as a director since March 1999. Prior to Caliper, he was the president and chief operating officer of Isis Pharmaceuticals, Inc. in Carlsbad, California. Previously, he worked as a vice president for Abbott Laboratories and SmithKline Beckman Pharmaceuticals. In addition, he held a tenured position in the Division of Oncology at the University of Texas, San Antonio School of Medicine. He holds a B.A. from Rutgers University and an M.D. from Georgetown University.

James Krugman is a vice president in the office of Krugman & Kailes, LLP, located in Saddle Brook, New Jersey, with offices in New York City and London. Jim has been an officer and a major shareholder in several companies, including Hayword Industries, Institutform Technologies, Meadox Medicals, and QEI-and he has been instrumental in building a range of businesses. He received his bachelor's degree from Colgate University and his law degree from George Washington University.

Daniel C. Lewis has worked with major international companies for more than a quarter of a century. He serves as president of Booz Allen & Hamilton's Worldwide Commercial Business; he joined the firm in 1978 and was elected a vice president in 1984. Prior to joining Booz Allen & Hamilton, he was with Warner-Lambert and Sundstrand. Daniel received his bachelor's degree in industrial management and an associate degree in aviation technology from Purdue University, along with an MBA from Fairleigh Dickinson University.

Ricardo Tavares and **Rebecca Reichmann** have significant international experience in South America. Ricardo is senior director for Latin America of Wireless Facilities, Inc. (WFI), and a consultant to wireless telecommunications operators and energy companies on Latin American regulatory and government relations. He holds a master's degree in political science from the Rio de Janeiro University Research Institute and is pursuing a Ph.D. in international political economy at the University of California at San Diego (UCSD). Prior to moving to the United States in 1995, Ricardo was a journalist, researcher, and editor in Rio de Janeiro. Rebecca is director of planning of the Immigration Museum for New Americans in San Diego. She served as vice president for programs at the San Diego Foundation between 1997 and 2001. Rebecca previously lived in Rio de Janeiro, where she was a program officer with the Ford Foundation's Rights and Social Justice Program. Before

joining the Ford Foundation, Rebecca was director of training, research, and evaluation for ACCION International, a microfinance assistance organization. A native of Southern California, she graduated from Yale University and holds a doctorate from the Harvard Graduate School of Education. She has published several books and articles on race relations in Brazil, women's rights and women's microenterprises in Latin America.

Gridiron Glamour

■ The Salk Institute has been selected as one of two charities that will benefit from a celebrity fashion show and fundraiser being held in conjunction with the upcoming Super Bowl in San Diego in January.

"Gridiron Glamour 2003" will feature the latest fashion as modeled by NFL players, professional athletes, and entertainers. Last year in New Orleans, more than 500 guests attended the sold-out event.

The fashion show, luncheon, and silent auction will be held Saturday, January 25. The annual event raises money for two selected charities that conduct research and clinical activities related to breast cancer. The second charity selected to benefit from this year's event is the Norris Comprehensive Cancer Center at USC.

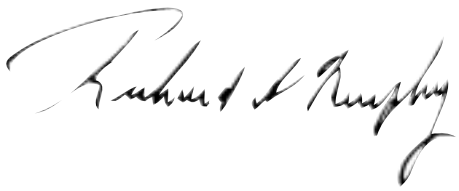
From the President

While in London on Salk Institute business, I first caught the news on BBC radio: Dr. Sydney Brenner, the Salk Institute's Distinguished Research Professor, had won this year's Nobel Prize in Physiology or Medicine, along with two others. My immediate reaction was, "It's about time!" I am sure that Sydney's colleagues and friends throughout the world shared this sentiment, for Sydney Brenner has long been recognized as a visionary and one of the most important biologists of our time.

During his more than half-century in science, Sydney has made remarkable contributions to our understanding of biology and medicine. He and his colleagues were responsible for uncovering the basic principles of how DNA instructs cells to make proteins. More than 30 years ago, he launched the first-ever effort to sequence the entire genome of a multicellular organism, choosing the humble, one-millimeter worm *C. Elegans*. Sydney realized that to begin understanding the complexities of human biology, we must first understand the workings of simpler organisms. His work laid the foundation for the eventual sequencing of the genome of a host of other organisms, including humans.

Sydney's *C. Elegans* work illustrates the power and potential of basic science research, for it demonstrates how curiosity-driven inquiry can yield unexpected clues to understanding human disease. His studies set the stage for understanding cell death, a gene-driven suicide program that kills cells as part of the normal process by which multicellular organisms develop from embryo to adult. We now know that the cell death program also plays a role in stroke and in adult human diseases like Alzheimer's and Parkinson's, where nerve cells in the brain die for unexplained reasons. The cell death program is also implicated in cancer, where abnormal cells survive and proliferate by eluding the mechanisms that should, by rights, kill them.

Sydney Brenner has always been ahead of his time. Visionaries in science are like that. They see far beyond the present, they define and answer questions of fundamental importance to our understanding, and they open new directions to others. Sydney's curiosity, intelligence, and commitment are the highest expression of our scientists' work at the Salk Institute. We are honored to have him as a colleague.



INSIDE SALK

Tours are given at the Salk Institute daily and represent an important way for the general public as well as visiting scientists to learn more about the Institute. To arrange a tour of the Salk, please contact the Institute Relations Office at 858.453.4100 extension 1200.

Calendar

NOVEMBER 20
The Salk in New York Luncheon
Union Club

DECEMBER 3
The Jerome Kohlberg Nobel Lecture Series
In honor of Roger Guillemin
Speaker: Salk Professor Wylie Vale
Salk Institute

DECEMBER 8
The President's Club Holiday Party
Home of Dr. and Mrs. Richard Murphy

DECEMBER 13
The Jonas Salk Lecture Series
Dr. William Foege, former director of the Center for Disease Control
Science, Art, and the Human Condition
Frederic de Hoffmann Auditorium

JANUARY 25
Gridiron Glamour

FEBRUARY 22
High School Science Day
Salk Institute

SALK INSTITUTE
FOR BIOLOGICAL STUDIES

STREET ADDRESS
10010 North Torrey Pines Road
La Jolla, California 92037-1099

MAILING ADDRESS
Post Office Box 85800
San Diego, California 92186-5800

Telephone: 858.453.4100
Fax: 858.552.8285
www.salk.edu

ADDRESS SERVICE REQUESTED

NONPROFIT ORG.
U.S. POSTAGE
PAID
PERMIT NO. 611
SAN DIEGO, CA