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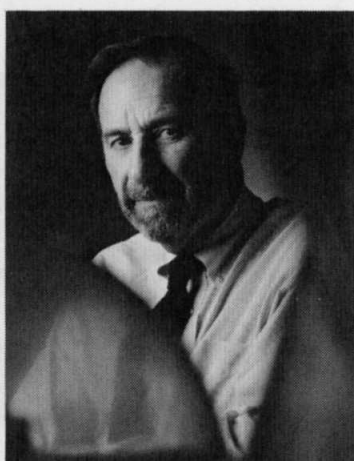
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David Luck appointed vice president for academic affairs

David Luck, Alfred E. Mirsky Professor and head of the laboratory of cell biology, has been appointed Vice President for Academic Affairs.

Announcing the nomination,



David Luck will serve as vice president for academic affairs.

which was enthusiastically endorsed by the executive committee of the board of trustees, President Torsten Wiesel said, "For many years, David has been a wise, dedicated, and energetic leader in the university community, in both scientific and administrative matters. I am extremely pleased that he has agreed to take on this important role."

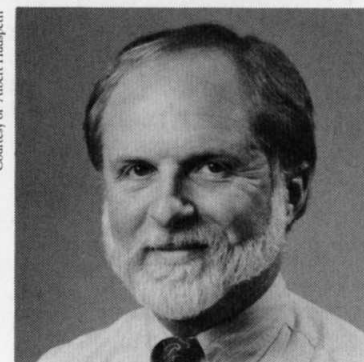
Luck's responsibilities will be to provide guidance in issues concerning faculty, to help realize the recommendations of the new Academic Plan, and to contribute generally to meeting the challenges—both scientific and administrative—facing the university. Luck has already served the university community in this type of work, most recently as chairman of the Senate and the Academic Council. Ten years ago, along with Professor James Darnell, he revitalized the University Fellows Program, with the full approval of then-President

Joshua Lederberg. "This was a highly successful effort to bring young researchers into the scientific leadership of the university, leading to the creation during the presidency of David Baltimore of the junior head of laboratory faculty," Wiesel told the board of trustees in his announcement.

Luck's laboratory research has focused on intracellular organelles, mitochondria and their biogenesis, and, more recently, microtubules—the dynamic skeletal structures that assist cells in moving, communicating with other cells, and dividing.

Luck received his B.S. from the University of Chicago, an M.D. from Harvard University, and a Ph.D. from Rockefeller. He is a member of the National Academy of Sciences, has served on the National Advisory General Medical Sciences Council, and is currently a member of the Medical Advisory Board of the Howard Hughes Medical Institute.

Prominent neuroscientist to join faculty



Courtesy of Albert Hudspeth

Albert James Hudspeth has been appointed full professor at Rockefeller.

Albert James Hudspeth, a prominent neuroscientist currently at the University of Texas Southwestern Medical Center, has accepted an appointment as full professor at Rockefeller.

"Jim Hudspeth is one of the most distinguished neurobiologists in the country," said President Torsten Wiesel. "He has contributed much to our understanding of the cellular basis of hearing through his elegant studies of the mechanisms of transduction, from sound waves to cellular signals. He will enrich our campus not only in neurobiology and biophysics, but in all areas of our scientific and educational activities."

Hudspeth, who has been an investigator of the Howard Hughes Medical Institute since 1993, conducts research primarily on the mechanoelectrical transduction of sound by hair cells inside the recesses of the ear, a process he has traced mainly in bull frogs. With his colleagues, he is currently seeking to establish that a muscle protein, myosin I, is present atop hair bundles, where transduction takes place. This work may elucidate the active role of hair cells in relaying their mechanical inputs; Hudspeth suspects that they are not mere passive detectors of sound but actively amplify it. Hudspeth is also endeavoring to clone the gene encoding

Rockefeller hosts tribute to philanthropist Mary Lasker Lasker Foundation donates greenery for campus gardens

Friends, family, and admirers of the late philanthropist Mary Woodard Lasker gathered in Caspary Auditorium on June 23 to salute her life of achievement. In honor of the occasion, the Lasker Foundation contributed a forest of greenery that adorned the stage during the event and was later planted in campus gardens.

Lasker, who died last February, was an activist, benefactor, and

champion of medical research. Many scientists and public officials credit her as a major force in the creation of the National Institutes of Health. She lobbied tenaciously

in the '60s for a 'war on cancer,' a research effort signed into law by President Nixon in 1971. With her

See *Lasker*, page 2

Carol Fendle



Awaiting their new homes are shrubs donated by the Lasker Foundation for the tribute to Mary Lasker, which was held at Rockefeller on June 23. The gift includes over a hundred mountain laurel shrubs, a dozen Dora Amateis rhododendrons, six Japanese dogwood trees, five Ivory Silk Japanese tree lilacs, and English ivy and periwinkle for ground cover. The new plants are concentrated in gardens around Caspary Hall.

2 New trustee & associate professor

3 Why not a neuron?

4 Rockefeller at play

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Trustees elect new trustee, promote Muller

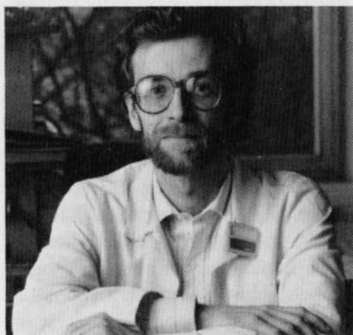
At its June 16 meeting, Rockefeller's board of trustees elected a new trustee, Russell Carson, general partner at Welsh, Carson, Anderson & Stowe (WCAS), and promoted William A. Muller to associate professor.

Carson was a founder of WCAS, which is a private investment firm specializing in the buyout of health-care and information services companies. Chairman of the board of trustees Richard Furlaud said, "Russell has financial savvy, and he understands biomedical science. His expertise will be very valuable to us."

Carson, who has served on the RU council, has a B.A. in Economics from Dartmouth College and graduated from Columbia Business School in 1967. Joining Citibank directly after receiving the M.B.A., he was a founding member of its initial venture capital investment unit. When he left the company in 1978 to establish WCAS, he was president and chief executive officer of Citicorp Venture Capital.

Carson is also vice chairman of the board of overseers of Columbia Business School and a member of the dean's council of Dartmouth College and the parent's council of Kenyon College. He and his wife, Judy Carson, are active supporters of the Inner City Scholarship Fund of the Archdiocese of New York. Judy Carson also serves on the RU council.

William Muller is a member of the laboratory of cellular physiology and immunology. He received his A.B. in 1975 from Harvard College. He then earned his Ph.D. at Rockefeller, completing it in 1981 in conjunction with a 1982 M.D. from Cornell University Medical College. He interned at Massachusetts General Hospital, then did a residency in pathology



William A. Muller was promoted to associate professor.

Courtesy of Russell Carson



Financier Russell Carson has been elected to Rockefeller's board of trustees.

at Brigham and Women's Hospital before returning to both Rockefeller and Cornell in 1987.

Muller's research is on the adhesion molecules and signals involved in the passage of white blood cells across blood vessel walls during inflammation, which is part of the immune system response to injury or infection. He is also an attending pathologist at Cornell University Medical College and The New York Hospital.

Lasker tribute

(continued from page 1)

husband, she established the Albert Lasker Medical Research Awards nearly half a century ago, and her acumen in bestowing them was evidenced by the dozens of Lasker recipients who later won Nobel Prizes.

"This is a celebration," President Torsten Wiesel said in his opening remarks. "We want to remember all the good things about Mary Lasker and what she stood for. We thank the Lasker family, who wanted to make this a glorious tribute and made possible this richness of life onstage and in our gardens. Mary loved flowers, and this is a beautiful way to honor and remember her."

At the tribute, men and women

who knew Mary Lasker well took up the podium and, one by one, offered paeans. Among those who spoke were cancer researcher and Nobel laureate J. Michael Bishop; heart surgeon Michael E. DeBakey, chairman of the Lasker awards jury; Connecticut governor Lowell P. Weicker; RU council member James W. Fordyce, who is Mary Lasker's nephew; Christopher W. Brody, her step-grandson and a Lasker Foundation trustee; and her close friend Mrs. Eppie Lederer, aka Ann Landers. The venerable Lester Lanin Orchestra was also in attendance, playing Mary Lasker's favorite tunes.



A forest of greenery, donated by the Lasker Foundation, transformed Caspary Auditorium for the tribute to Mary Lasker.

Carol Fundé

Letter to the Editor

Has anyone else noticed soaring telecommunications costs? The monthly charges to our unit have roughly doubled from three years ago. We appreciate that this reflects new services, such as voice mail, and the investment in new equipment. Some charges that were formerly included in overhead now appear to come directly to the end user. Could our telecommunications colleagues suggest ways to reduce costs? Also, what is the cost outlook for the future?

Jesse Ausubel

Director, Program for the Human Environment

Reply

We sympathize with everyone whose budgets are pressed. While many costs have gone up, telecommunications costs have not soared, nor even doubled from three years ago, although some changes in the distribution of costs have resulted in increases to individual bills.

In 1991, local charges, which had been paid by the university, were indeed transferred to labs and service departments; so were equipment costs. But labs and departments were given budget increases specifically to cover these costs.

Any increases beyond this base rate are due to: increased local use in individual labs, which has risen by an average of 11 percent each year for the past three years; additions to equipment; and contractually mandated rate increases—averaging 6% each year—for debt service and equipment maintenance.

We have acted to reduce university costs by taking advantage of competition among telecommunications providers. We renegotiated our contracts with MCI, AT&T, and Sprint, and we now pay less for local, domestic, and international calls. We use these savings to buffer campus users somewhat from the contractual rate increases.

How can individual users reduce bills? By making fewer calls, obviously, but also by using e-mail whenever possible, instead of dialing or faxing. Avoid using Directory Assistance, which costs the campus over \$17,000 each year.

Telecommunications has taken hard steps in the past three years to reduce costs: it shrank from a staff of ten to eight and now does the campus call accounting, which was previously contracted out. Savings from these measures were passed on to users, as all future savings will

be, such as further reductions resulting from increasing competition among telecommunications providers.

We appreciate the opportunity to clarify these matters.

Francis C. Lees
Chief Information Officer

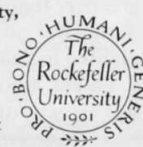
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Defining default: RU scientist studies neural induction

By Susan Blum

In the earliest stages of vertebrate development, an incipient fish looks virtually identical to a rudimentary pig or a nascent human. The reason? Certain first principles are so essential for building vertebrates that all must be constructed upon the same basic foundation. Yet, as the variety of adult vertebrate forms attests, the forces of evolution placed novel additions onto that conserved framework to yield species as different as frog, mouse, and man.

As scientist Ali Hemmati-Brivanlou describes it, the study of vertebrate embryology has evolved in much the same way. While building on fundamental concepts and methods, the field has continuously added modifications that result in new insights. Such a process is evident in his own research, begun while he was a postdoc, and now continued at Rockefeller, where he arrived this past spring. His studies, which focus on the development of the frog called *Xenopus*, are providing a new understanding of neural induction, a critical step in development.

Foundations laid early

The foundation for studies of vertebrate development were laid by Hans Spemann and Hilde Mangold in the 1920s and '30s, during the "classical era" of experimental embryology. Working with newts and salamanders, they excised and transplanted cells to learn which embryonic area contained the information needed to form the dorsal axis, the region containing the vertebral column and the central nervous system. Their cut-and-paste experiments disclosed a group of cells, now called the Spemann organizer, responsible for this task.

Biologists have been employing and elaborating upon Spemann's basic techniques and concepts ever since. In 1969, for instance, experimental embryologist Peter Nieuwkoop showed that the mesoderm, one of the embryo's three primary germ layers, is induced by signals that come from the underlying germ layer, the endoderm. Other experiments, conducted well into the 80s, examined what happens when various embryologic regions—or, for that matter, individual cells—are cut loose from the input of inductive signals.

All these experimental results (save for a few contradictory ones dismissed as artifacts) supported a particular theory about neural induction, the process by which cells are prompted to take on a neu-



Assistant Professor Ali Hemmati-Brivanlou has discovered that inhibitory signals during embryonic development lead to the induction of nerve cells.

ronal fate. Such induction takes place in the third germ layer—the ectoderm—where cells can become either nerve cells (neurons) or skin cells (epidermal cells). According to the theory, positive messages arriving from the dorsal mesoderm would induce cells in the ectoderm to take on a neuronal fate. Without such a positive signal, an ectodermal cell would follow its "default" fate and become a skin cell.

Molecular scissors and glue

With the advent of molecular biology, new tools were added to build on the basic foundations of experimental embryology. Such techniques allowed biologists to cut and paste on a molecular rather than a cellular level—that is, to add and subtract the components of signaling pathways instead of the cells that send or receive the signals. These were the tools Hemmati-Brivanlou used as a postdoc in the Harvard lab of Douglas Melton, where one goal was to find the mesoderm-inducing signal Nieuwkoop had localized. In 1992, he and Melton reported that this signal was transduced (or communicated) through the receptor for a growth factor called activin—a molecule thought to be present throughout the embryo, though in different concentrations in different regions.

These studies provided satisfying answers about mesoderm induction, but they unexpectedly raised perplexing new questions about neural induction. In making their molecular cuts, Hemmati-Brivanlou and his colleagues created situations in

which neural tissue developed from ectoderm in the absence of mesoderm's putative, positive, neural-inducing signal. For the next year and a half, Hemmati-Brivanlou pursued the explanation for this puzzling result. The answer was published in two back-to-back papers in the April 22, 1994 issue of *Cell*.

Reading the signs

The papers show that the answer lies in changing the signs of various factors in the embryologic equation. Highly simplified, it works like this: In the ectoderm, the default state is not epidermal, but neural. Activin, a ubiquitous growth factor, acts as an inhibitor in the ectoderm, preventing most cells from taking the default neuronal pathway and thus dispatching them to an epidermal fate. But certain regions in the mesoderm (the Spemann organizer and the notocord) act as a source of a molecule called follistatin, which travels to areas of the ectoderm. There, follistatin inhibits activin's inhibitory activity and frees cells to take on the default neural state. Thus, one negative signal from the mesoderm (follistatin), acting on another negative signal in the ectoderm (activin), has the same effect as a positive inducing signal from the mesoderm—once the default state is redefined.

Though such inhibitory strategies are already well documented in invertebrates such as the fruit fly, this is the first time induction through inhibition has been found in vertebrates. But Hemmati-Brivanlou predicts it will be far from

the last. "The embryo is much smarter than we give it credit for," he says. One way to be smart is to keep options open early in development—for instance, by putting activin everywhere. These options can then be progressively limited by inhibitors, whose importance is "going to become increasingly obvious," Hemmati-Brivanlou says.

Just how important inhibitors may be is highlighted by other results from his recent research. These studies indicate that the neural state is the default state not only in ectoderm but in all three germ layers. In other words, says Hemmati-Brivanlou, "in order to get skin, muscle, bone, gut, cartilage—everything else—you gradually add signals that inhibit the neuronal fate and unveil all the others."

Why nature should have chosen to make the neuron the default cell is a tantalizing question, but one that veers so "dangerously close" to philosophy that Hemmati-Brivanlou says it is best left to contemplate upon retirement. In the meantime, there are plenty of other questions he plans to pursue right now in his new lab at Rockefeller.

Among them are the following: Is activin the only neural inhibitor, or might related family members play similar roles? If so, does follistatin inhibit activin only, or other family members, too? What ensures that follistatin is produced at the right place and time in the mesoderm? What is the role of "noggin," another recently identified neural inducer? What are the other components of the signaling pathway or pathways involved in neural induction? The answers to such questions may eventually yield not only insights into basic biology, but new therapeutic strategies, as well. In addition to neural induction, Hemmati-Brivanlou is also conducting studies on how the nervous system is patterned, and how neurons acquire their final orientation in the nervous system.

With all these projects in the works, Hemmati-Brivanlou has yet another in mind—the editorship of a collection of classic papers in embryology. "To be a 'hard core' embryologist, you really have to be familiar with these works," he says. Having dug time and again into the "gold mine" of information to be found in the papers, he is especially eager to make them available to the new generation of embryologists evolving today. The volume will be yet another way to share his view of how to make progress in embryology: "Respect and draw from the tradition of work done by previous scientists, but challenge it all the time."

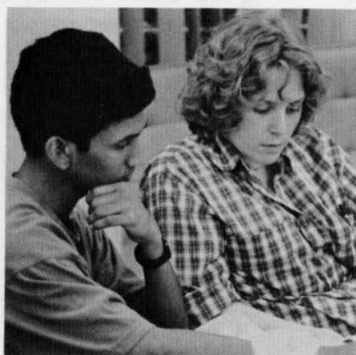
Undergraduates dip their toes in science at Rockefeller

This summer at Rockefeller, fifteen undergraduates from around the country are squinting at gels, crouching over benches, anxiously clocking experiments, and hurling their brains at stubborn mysteries. In short, while other undergraduates may be poolside, they are living the workaday life of scientists, courtesy of Rockefeller's Summer Undergraduate Research Fellowship Program (SURF).

The SURF program, now a decade old, gives hands-on research experience to qualified sophomores and juniors majoring in biology or chemistry. "These students are curious about basic biomedical research. The ones who enjoy it and are good at it are the kinds of students who, we hope, may eventually apply here," said Associate Professor Marjorie Russel, who administers the program.

This year, a committee of three faculty and three graduate students chose participants. "Applicants must demonstrate high motivation and exceptional interest in scientific research. It's very competitive," said Russel. Applicants specify lab preferences and are assigned on the basis of both their requests and lab requests.

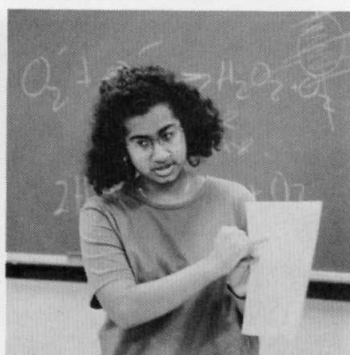
Most of the interns are mentored



At their weekly journal club meeting, SURF students analyze current scientific articles with Rockefeller graduate students.

by postdoctoral fellows; sometimes graduate students or faculty serve as mentors. Under their supervision, the undergraduates—many of whom have never worked in a laboratory—perform chores ranging from the humdrum to the nerve-racking. In addition, they attend a journal club; each week, two students present and critique a published paper to a forum of fellow SURFers and graduate students.

Most SURFers are funded by an anonymous donor. Labs funded through the Howard Hughes Medical Institute support their own SURFers, and the Philip D. Reed Foundation supports three students from historically black colleges in a



new, joint venture with the United Negro College Fund. Students get a stipend and, if necessary, local housing.

At the end of the summer, students write papers on what they've learned about the scientific life. Russel sits down with the SURFers one by one, to get their comments and suggestions about possible improvements to the program. "I also like to find out how interested in this type of work they are as a result of their experience."

"We don't have undergraduates here," she continued, "and even at the best schools, undergraduates may not know about our graduate program. Through SURF, we send the word out that we exist."

Hudspeth

(continued from page 1)

the hair's myosin I.

After earning his B.A. (1967), Ph.D. (1973), and M.D. (1974) from Harvard, Hudspeth spent a year at the Karolinska Hospital in Sweden. He joined the California Institute of Technology as an assistant professor in 1975, and left as a full professor in 1983, when he moved to the University of California School of Medicine in San Francisco. In 1989, Hudspeth joined the University of Texas Southwestern Medical Center as professor and chairman of the department of cell biology and neuroscience. He founded a neuroscience program there and is now director of the Center for Basic Neuroscience Research.

Elected to membership in the National Academy of Sciences in 1991, Hudspeth has won several awards for excellence in teaching—from the California Institute of Technology; the University of California, San Francisco Division; the University of Texas Southwestern Medical Center; and the Minnie Stevens Piper Foundation.

Potpourri

Concert discount deadline

The 10 percent discount on the series subscription price for the 1994-95 Rockefeller University evening concert series is available only until July 31. The discount is available for all members of the university community. For information, concert brochures, or subscription cards, contact Catherine Rogers, x8437 or x8971.

Salad days

Tower cafeteria is offering take-out salads through Labor Day; they can be found in the refrigerator. Food Services has also set up tables and chairs in front of Tower for outdoor dining.

Stop-smoking program

The Personnel Office is offering an individualized stop-smoking program. For further details, call x8300.

RU calendar

Beginning Aug. 1, items for The Rockefeller University Calendar of Events should be submitted to Joseph Bonner via e-mail (bonnerj), fax (x7876), or interoffice mail (box 68).

Cohn Forum

Ronald Dworkin, law professor at NYU, and author of *Life's dominion: An argument about abortion and*

euthanasia, will speak on "Justice in the distribution of health care" on Tues., Sept. 20 at 5:00 P.M. in the Faculty Club.

Woodstock Inn Discount

The Woodstock Inn & Resort in Woodstock, Vermont is offering a discount package to university employees, now through Dec. 22. The package includes: \$95 (plus tax) per room; European meal plan; upgraded accommodations; reduced fees for golf, tennis, and squash; free use of fitness facilities; and no charge for children 14 and under who room with parents.

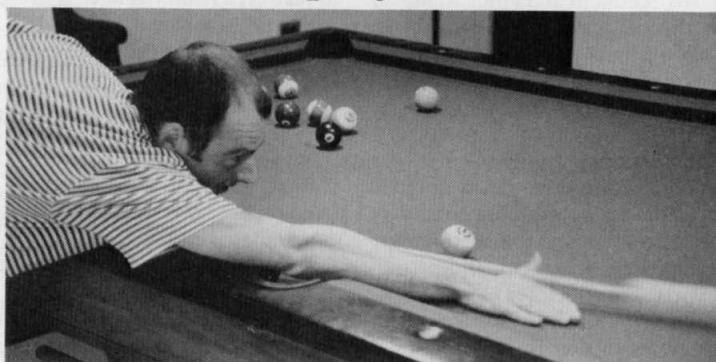
Send reservation requests in writing, identifying yourself as a university employee and giving first and second choices of dates, to: Reservations, The Woodstock Inn & Resort, Fourteen the Green, Woodstock, VT 05091-1298. (Fax: 802-457-6699)

Reservations are accepted on the availability of space, and certain close-out dates such as major holidays and Foliage Season apply. For more information, contact the Inn (800-448-7900; 212-649-5654).

News&Notes schedule

News&Notes will not be published in August. The next weekly issue will appear after Labor Day.

Rockefeller at play



Kelvin Davies, a postdoc in the Cross lab, sinks a shot during the Faculty and Students Club pool tournament last month. Davies and partner, Brian Turner, from Cornell University Medical Center, won the tournament. They were awarded custom pool cues.



Denizens of the Children's School frolic on the new play structure, which was built on July 9 by university volunteers.