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At 91, oldest employee says goodbye to gatekeeping duty

Herb Autenrieth, a gatekeeper at Tyson Research Center for 23 years, says farewell to gatekeeping duty. Autenrieth, a gatekeeper at Tyson Research Center for 23 years, says farewell to gatekeeping duty. He and his wife of 70 years, Nonie, have three children, 10 grandchildren and 11 great-grandchildren.

On April 12, friends, family and co-workers threw a party at Tyson for Autenrieth. Autenrieth sat with his feet up in the Tyson gatehouse, laughing and swapping stories with fellow gatekeeper Ray Pemberton. Meanwhile, his boss, Richard W. Coles, Ph.D., adjunct professor of biology and director of the research center, frequently visited Tyson to conduct studies, and was issued ID cards. Special visitors and student groups can arrange an appointment or guided tours.

From the very beginning, Autenrieth took his role as guard to heart. He and Coles go out to lunch every day, and during their conversations, they often discuss the moon's volcanic rocks. Autenrieth refused to let in Tyson's new president, Raymond Flint. "He was hired by Ray Flint," Coles began. Autenrieth continued the story, "Well, they told me to let no one in. Raymond Flint drove up to the gate, and I wouldn't let him in. You see, he had hired me over the phone. My boss at the time came running over the hill. He said, 'Open the gate, Herb, that's Mr. Flint.' In a couple of hours, my boss came back. You know what he said? He said, 'Herb, you're a damn good gatekeeper.'"

That incident happened before the arrival of Coles. Back in 1968, Autenrieth's job was quite a bit different. At times, there would only be three visitors during the entire month. "When I first got here, there was no traffic at all. I'd come in, unlock the gate, sleep. After Dr. Coles took over, things changed."
Approaches in the Study of Islamic Literatures "May 3-4. The workshop is hosted by the United States who work in Arabic, Persian and Turkish literary traditions, as well as Washington University faculty. For more information about the workshop, which will be held in the Alumni House, 6510 Wallace Circle, call 725-4446 or 889-5165.

Center hosts Ismailic literature workshop

The Center for the Study of Islamic Societies and Civilizations will host an international workshop on "New Approaches in the Study of Islamic Literatures" May 3-4. The workshop is part of the center's 1990-91 Rockefeller Residency Fellowship Program. The workshop is designed as a forum to facilitate the exchange of ideas among scholars actively engaged in the field of Islamic literary history and criticism, says Ahmet T. Karaman, PhD, director of the 1990-91 Rockefeller Residency Program and assistant professor of Islamic thought and Turkish literature. The workshop will feature eight principal speakers from Europe and the United States who work in Arabic, Persian and Turkish literary traditions, as well as Washington University faculty. For more information about the workshop, which will be held in the Alumni House, 6510 Wallace Circle, call 725-4446 or 889-5165.

Moon's resources — continued from p. 1

chemical equivalent of lunch for two — two large cheese sandwiches, two 12-ounce cans with sugar and two plums, with substantial nitrogen and carbon left over. Of course, there are several steps of chemical extraction and synthesis to get from lunar soil to lunch, but the process which will extract is straightforward and biological synthesis can do the rest. Hydrogen and nitrogen can be extracted from the soil by boiling it to about 700 degrees Celsius. The sun can furnish the energy: a few megawatts of power would be sufficient to produce hydrogen at a rate of 40 metric tons per year. Astronauts and robots would get the job done.

"The problem of accessibility of hydrogen, carbon and nitrogen for use in near-Earth space is an economical one," Haskin says. "When we want to use large quantities of these elements in near-Earth space, it will be cheaper to obtain them by heating lunar soil, or to provide them from the Earth or other sources. But it takes up a lot of space to bring in a lot of material and it is easier to get them on the moon than to bring them down."

Performing arts production is sold out

The Performing Arts Department will present three sold-out performances of Alan Ayckbourne's "Woman in Mind," described by the London Guardian as "a savage tragi-comedy." The performances will be held at 8 p.m. April 26 and 27 and at 2 p.m. April 28, in the Mallinckrodt Center Drama Studio. The eight-person cast of "Woman in Mind" is directed by Christopher E. Sanders, who received a bachelor's degree from the University in 1989 and is pursuing a master's degree in drama from Washington. Sophomore Sonya Robbosh, in her first departmen- tal role at the University, plays the lead role. Other cast members include freshmen Ed Jackson and Michael Holmes, sophomore Nate Fristoe, junior Nikola Wilczynski, sophomore Ed Jackson and Louis Goldman, and alumni Ken Gurney. Tickets for the Pickle Family Circus are $14 for seniors and Washington faculty and staff, and $9 for students. For more information, call 889-6543.

Pickle Family Circus comes to campus

Here's how it usually works: The kids plead to go to the circus, the parents give in, and everybody pretends that the parents are sitting there amidst children, Cracker Jacks and cotton candy just to indulge the kids. In reality, the parents have at least as much fun as the kids do — maybe even more.

The Pickle family doesn't believe that circus fun is just for chronological children. When they perform in the Mallinckrodt Center Drama Studio.

and deuterium fuse, the reaction gives

melted fuel in the reactor. Tritium decays with a half-life of about 12 years, but tritium-3 can be made on Earth by first producing tritium, then waiting.

Radioactive waste?

But fission reactors produce long-lived radioactive products, the most significant of which is tritium. Tritium is a radioactive isotope of hydrogen, which forms a small amount of the hydrogen found in the sun and in stars. Tritium's atomic number is 3, which means that it has three protons and three neutrons, instead of the two found in ordinary hydrogen. Because of its small mass, tritium reacts extremely slowly to produce energy; it occurs when light atoms such as hydrogen are fused together into larger elements at ultra-high temperatures at a rate of millions of degrees Celsius. In nuclear fusion, the process long in vogue to make electricity, very large elements such as uranium are split and part of the energy holding the uranium nucleus together is released. To make fusion energy a reality, scientists and engineers must devise a way to fuse hydrogen with deuterium and yield a proton, which the reactor stops easily. Less than one percent of the energy released from the deuterium-helium-3 reaction comes out in the form of neutrinos, which carry some radioactivity. The mining of helium-3 from the moon instead of producing it on Earth, then, eliminates the need for a fusion reactor.

"It is gratifying to see that President Bush has shown that we will return to the moon to stay."

—Larry A. Haskin

A major impetus to establishing a base on the moon has long been the difficulty in maintaining life-support systems. But, says Kulcinski, mining a ton of helium-3 would provide enough by-products to support tens of thousands of people on the moon. The process that produces a ton of helium-3 also produces 500 tons of nitrogen, 3,100 tons of helium, 3,810 tons of water, 1,500 tons of natural gas, 3,000 tons of carbon- oxygen compounds and 6,100 tons of hydrogen.

The United States will be taking a serious political and economic role by leaving the moon to others to explore, says Haskin.

"There's no more convenient place to get experience living and working on another planet, and we can get back and forth to it in just a few days. We can even monitor the Earth from the moon, and always face us. It is gratifying to see that Bush will return to the moon. We will return to the moon to stay. We hope the drive to land humans on the moon will not overshadow the challenge of learning to live on the moon and using its resources."

—Terry Wiegand
John R. Bowen, Ph.D., assistant professor of anthropology, has received an award from the Spencer Foundation for furthering the transmission of modernist Muslim knowledge in Indonesia. A book about his research, "Politics and Poetics," recently was published by Yale University Press.

Sol L. Garfield, Ph.D., professor emeritus in the department of clinical psychology, presented a colloquium lecture to the Department of Psychology at the University of South Florida in Tampa. He also gave a grand round lecture at the Institute of Psychiatry of the Medical University of South Carolina in Charleston.

Lucian Krukowsky, Ph.D., professor of philosophy, presented a paper titled "Schopenhauer and the Aesthetics of Modernism" at the Schopenhauer Society of the American Philosophical Association meeting in San Francisco.

Heikki Seppa, professor of art and master metalsmith, conducted a workshop and public lecture on the shell structures technique, which deals with the transformation of metal sheets into sheet metal structures. The three-day event was sponsored by the Philadelphia Society of Goldsmiths and the University of the Arts in Philadelphia, Pa.

Michael Sherradze, Ph.D., associate professor of psychology, presented an invited paper at the International Conference on "Europe Plus Moscow: Experience and Perspectives on State Youth Policy" in Moscow. He also delivered an invited presentation on social work in the United States at the Ministry of Social Welfare of the Russian Federation. He gave an invited talk titled "Assets and the Poor: A New Direction in Welfare Policy" at the annual meeting of the National Association of Social Workers in Boston. His book titled Assets and the Poor: A New American Welfare Policy was released last month by M.E. Sharpe.


J. Gershon Spector, M.D., assistant professor of otolaryngology-head and neck surgery, was the visiting professor at the Mexican Society of Otolaryngology-Head and Neck Surgery annual meeting in Mexico City, where he presented papers on "Diagnosis and Management of Angiokeratoma."

Paul S.G. Stein, Ph.D., professor of biology, was an invited speaker at the International Conference on Neural Networks held in San Diego. He also gave an invited talk on "Computations of Cerebral Capabilities of Neural Networks in the Neural Spinal Cord: Selection and Generation of Motor Patterns" at the Sensorimotor Control Systems Symposium. He also was an invited speaker for the seminar on "Rhythm in Nature and Culture," sponsored by the Commonwealth Center for Literature and Cultural Change at the University of Virginia. His talk was on "The Biology of Rhythmic Limb Movements." In addition, he delivered a speech on "Processing of Cutaneous Information in the Spinal Cord: Scratch Reflex in the 'Scurf'" at the Biodynamics Institute at the University of Virginia.

Alan Templeton, Ph.D., professor of biology, was also invited to give a talk on "Genetic Drift and Population Differentiation in Studbook Management for Endangered Species." The course, which was held at the University of Arizona, was sponsored by the American Association of Zoological Parks and Aquariums. He also served on an internal panel that evaluates research in systemsatics for the Swedish National Science Research Council. Within the department, he was selected as a member of the National Committee for a new appointment in population and evolutionary biology.

Richard A. Watson, Ph.D., professor of physics, was invited to give a talk at The Philosopher's Joke. Essays in Form and Content (Buffalo: Prometheus Books, 1991).

Have you done something noteworthy?

Sally A. Goldman, Ph.D., assistant professor of computer science, has received a $25,000 junior faculty grant from the GE Foundation.

"There is a crucial need to attract more women and underrepresented minorities to academic careers in engineering, the physical sciences and business," said Clifford V. Smith Jr., GE Foundation president. "For example, of the 5,000 engineering and computer scientists who graduated in 1989, only 70 went to underrepresented minorities and 440 to women. These numbers show that the problem is very real and the need for this program very great."

In addition to the Junior Faculty Grants, the GE Foundation provided 56 fellowships totaling $1.55 million for universities to award to first-year graduate students for full tuition, fees and $12,000 stipends. Amy Brimish, a recent graduate of the University of Virginia, received a GE Foundation Fellowship to Johns Hopkins University, where she is studying biomedical engineering. Washington University received an outright grant of $5,000 for selecting Brimish as a GE Fellow.

"We are pleased that the GE Foundation has selected two of our people for these outstanding programs."

Jim Palma, former director of the gatehouse at Tyson, is one of the Oldest Employees.

Oakville native, Goldman joined the computer science faculty in August 1990, after receiving her doctorate in electrical engineering and computer science from Massachusetts Institute of Technology (MIT) in 1987. Goldman received $5,000 for selecting Brimish as a GE Fellow. Goldman will use the money to support a doctoral graduate student in her special field of interest, computational learning theory, a developing field of computer science that employs the use of mathematics to explore the theory behind machine learning. Building that machines that learn from experience is an important goal of artificial intelligence, which strives to design machines that behave intelligently. In contrast to standard machine learning research, computational learning theory tries to define formal mathematical models of machine learning that enable performance analysis of learning algorithms. The insight gained from this work is expected to contribute to applications of machine learning.

A St. Louis native, Goldman joins 21 members of the computer science faculty in August 1990, after receiving her doctorate in electrical engineering and computer science from Massachusetts Institute of Technology (MIT) in 1987. Goldman received $5,000 for selecting Brimish as a GE Fellow. Goldman will use the money to support a doctoral graduate student in her special field of interest, computational learning theory, a developing field of computer science that employs the use of mathematics to explore the theory behind machine learning. Building that machines that learn from experience is an important goal of artificial intelligence, which strives to design machines that behave intelligently. In contrast to standard machine learning research, computational learning theory tries to define formal mathematical models of machine learning that enable performance analysis of learning algorithms. The insight gained from this work is expected to contribute to applications of machine learning.

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Alcoholics inherit biological difference

Because the disease is sporadic and often preceded by a patient's denial of the problem, alcoholism is difficult to diagnose until dangerous, even life-threatening, complications have set in, confounding treatment. That's one reason why medical researchers have looked so assiduously for a marker — an easy-to-use but reliable, definitive indicator — that is inherited along with the predisposition to alcoholism.

Researchers recently at the School of Medicine, such a flag finally may have emerged. For the first time, in research done recently at the University of Washington, Devor, Ph.D., has replicated the results of an earlier study showing a difference in enzyme activity levels between alcoholics and nonalcoholics. Devor also has found that the variation in enzyme activity can be passed on to offspring. This work ultimately could lead to a blood test for determining a person's susceptibility to alcoholism.

"One of the main reasons alcoholism is so intractable is that we don't have a marker for the disease," Devor says, an assistant professor of medical genetics and psychiatry. "We've found that a significant biological indicator of alcoholism is in sight."

Much remains to be done, but at the very least, Devor's work may push the blood test capable of revealing an individual's potential for a particular type of alcoholism — before he ever takes a drink — into the medical mainstream. "That concept of early diagnosis leads directly to the idea of prevention and the saving of傻old lives. And when gene therapy becomes reality in the more distant future, physicians will have at hand the location of one of the genes responsible for alcoholism."

More than 10 million Americans suffer from alcoholism, according to the nation's most serious drug problem. "Alcoholism is the country's fourth leading cause of death."

A single, powerful gene

For 50 years, researchers have sought a reliable diagnostic test for alcoholism, looking for a recognizable genetic trait that is inherited along with the disease. For longer than that, scientists have recognized that in many cases, a specific trait — the ability to metabolize alcohol — is transmitted from parents to children. Unfortunately, most attempts to locate a reliable trait that is consistently inherited along with alcoholism have never been replicated, Devor says.

Differences in EEG patterns between alcoholics and nonalcoholics, hormone dissimilarities and a dozen reported enzyme variations all have been proposed, only to fade when studies could not be reproduced.

In 1988, Boris Tabakoff, M.D., of the National Institute on Alcohol Abuse and Alcoholism (NIAAA), reported results from his lab that showed a reduced level of activity for the enzyme adenylate cyclase in alcoholic subjects over controls. Adenylate cyclase had long been on a list of possible markers in alcoholism research. It works to cross cell membranes and stimulate cells to do their job, especially in the brain and the liver, two of alcohol's effective sites. It is also a common enzyme found not just in man but in many mammals, indicating that it has an essential function retained by evolution. In work to be published this spring, Tabakoff and his assistant Vanessa Henderson, and Devor, replicated Tabakoff's early results in a separate group of alcoholics and their families from Washington University's experimental population. His data went on to show the same reduced level of activity for adenylate cyclase in the unaffected relatives of alcoholics.

"That won't be as easy as it might sound," he adds, pointing out that perhaps five percent of the population suffers from alcoholism. By the time a laboratory marker with the potential to turn gene therapy into a reality is available, alcoholics will have died. That's one reason why, according to Devor, much of the work classifying alcoholism into types also has been done by Washington University researchers, most notably C. Robert Cloninger, M.D. Cloninger's classic studies of alcoholics in Swedish families established the role of genes and their modes of inheritance. That work revealed two types of alcoholism. Type 1, the more common, is characterized by drinking beginning in the second or third decade of life and little antisocial behavior. Both genetic and environmental factors are involved. Type 2 alcoholism is associated with social problems and is displayed only by males. Its heritability is much higher, regardless of environmental influences. More types may be identified, with greater or lesser genetic components.

Nonetheless, using only adenylate cyclase activity levels as an indicator, the research accurately predicted the presence of alcoholism in families almost three fourths of the time. "Not all alcoholism will be related to adenylate cyclase activity, not all alcoholism even has a genetic component. So we're not talking about solving the problem completely," Devor acknowledges. The sophisticated enzyme analysis of the blood required to assess adenylate cyclase activity is not yet feasible on a population-wide, screening basis. But the promise of a reliable tool for the early diagnosis of at least some types of alcoholism is finally real. And, Devor says, the future is now. He anticipates a practical application of his work in a matter of years, not decades, to cut the horrible costs of alcoholism, such as the direct measure of susceptibility to alcoholism, sought for so long, will cut the horrible costs of alcoholism extracted by western civilization's biggest drug problem.
The AIDS Clinical Trials Unit (ACTU) at the University of Missouri, led by Dr. Oliver H. Lowry, was named a satellite facility at St. Louis Regional Medical Center. The facility, located in Regional Medical Center's Infectious Disease Clinic at 5555 Forsyth Blvd. from 8 a.m. to 12:30 p.m. Mondays and Thursdays with plans to expand hours to 8 a.m. to 4 p.m. Mondays, Wednesdays and Thursdays.

The satellite facility is open to anyone who qualifies for care at Regional Medical Center. Because the purpose of the facility is to make it easier for underrepresented populations, in particular the medically indigent, blacks and IV drug users, to participate in AIDS-related drug studies while receiving primary care for HIV infection at the Regional clinic.Questions at the facility can be answered by Dr. Oliver H. Lowry, distinguished professor emeritus and lecturer, served as head of the pharmacology department from 1947-76 and served again as acting head of the department from 1980-90. A member of the National Academy of Sciences, he is an internationally renowned investigator in whose research areas and approaches have had a profound effect on neurobiology, neurochemistry and immunology. His research concentrates on the nervous system and emphasizes the chemistry of various cell types in brain tumors. Recently, his work has helped measure rapid changes in glucose consumption in which a small number of cultured cells or small regions of the brain have been transplanted to nude mice to study the biology of genes and genomes, and the function of genes and genomes, and the development of the AIDS virus into cultured human white blood cells. The Lowry lecture is sponsored by the Department of Molecular Biology and Pharmacology at MU.

Perry receives hypertension award
H. Mitchell Perry Jr., M.D., professor of medicine, has been awarded the Edward P. Lopez Award for excellence in basic, clinical or applied research in hypertension. The award from the National High Blood Pressure Education Program was presented April 9 at the National Conference on Cholesterol and High Blood Pressure Control in Washington, D.C. A stipend of $10,000 accompanied the award.

The award, made by the American Heart Association on behalf of the National Heart, Lung, and Blood Institute, was presented to Perry for developing a method to help identify young, black males with hypertension and for research closely related to the nation’s most pressing health problem. Perry created and directed the hypertension division and clinic at the School of Medicine and is a staff physician at Barnes-Jewish Hospital and the VA's national hypertension hospital. His 17 years of experience has focused on problems with high blood pressure that are especially affected by elderly people and minorities. He is currently directing the St. Louis section of a 16-center national study called the Systolic Hypertension in the Elderly Program (SHEP). The study is designed to test whether lowering systolic blood pressure with drugs will decrease heart attacks and strokes. It also investigates whether medication can favorably affect memory and mental powers in persons aged 60 and older, and whether lowering systolic blood pressure improves kidney function to regulate blood pressure and kidney function to regulate blood pressure and kidney function to regulate blood pressure.

Berg and Schreiber are named alumni endowed professors
Two faculty members at the School of Medicine have been named alumni endowed professors: Douglas E. Berg, Ph.D., is professor in molecular microbiology and pharmacology and Robert D. Schreiber, Ph.D., is professor in pathology. The appointments were announced by William A. Peck, M.D., vice chancellor for medical affairs at the University and dean of the School of Medicine. "Douglas Berg and Robert Schreiber are world class leaders in their respective scientific fields, and are great contributors to Washington University," says Peck. "They richly deserve the honor of the alumni professorships. By the same token, we are most appreciative of the enormous effort by the alumni association in providing their truly unique support for the institution."

Supported with donations from alumni and former house staff, alumni professorships are designed to attract and retain faculty. The first professorship was established in 1982. The School of Medicine hopes to establish an alumni endowed professorship in each of its 17 departments; the Department of Pathology has the fourth.

Berg, professor of molecular microbiology and genetics, conducts research closely related to the nation's Human Genome Initiative. Washington University was one of four institutions in the nation designated last year as a Human Genome Center: the federally funded project's goal is to decipher the complete genetic message of human beings at the molecular level. Berg is studying transposable elements, the structure and evolution of genes and genomes, and the mechanisms by which bacterial organisms cause disease. He is particularly interested in the development of transposons, or transposable elements -- specific sequences of DNA which can insert in the chromosomes of a cell. He discovered a bacterial transposon called Tn5 and found that it could be especially valuable as a research tool because it can be inserted into target DNA, used to identify genes, range genome segments and carry new DNA segments. He is developing Tn5 as a tool for efficient, large-scale DNA sequencing and analyses of gene function.

Schreiber is professor of pathology and molecular microbiology. Work in his laboratory focuses on understanding an important protein that regulates immune responses known as interferon-gamma. Interferon-gamma belongs to a family of molecules known as cytokines, which are secreted by immunologically active cells and provide a mechanism by which different cells communicate with one another. One of Schreiber's goals is to determine how interferon-gamma interacts with immunologically important cells by learning more about the role of the interferon gamma receptor which must be present for binding and cellular response to occur. He is also investigating how interferon-gamma is produced and whether faulty production can lead to autoimmune or immunodeficiency diseases.

The long-term goal of this work is to provide insights into the role of interferon-gamma in regulating immune responses and ultimately to develop new therapies for treating autoimmune diseases.

Other School of Medicine faculty who have been named alumni endowed professors are Jeffrey I. Gordon, M.D., chairman of the Department of Molecular Biology and Pharmacology, and Alan L. Schwartz, M.D., Ph.D., professor of molecular biology and pharmacology and director of the division of hematology oncology. The first alumni endowed professor was Philip Needlenman, Ph.D., research professor and former chairman of the Department of Pharmacology, now vice president of corporate research at Monsanto.
Protein will increase understanding of how nerves and muscles interact

Scientists at the School of Medicine have created the rudiments of an artificial synapse in connective tissue cells that contains a naturally occurring protein that spurs the formation of neuromuscular junctions. This process confirms researchers' suspicions about the role of the heretofore mysterious protein that was created before, this is the first stable living model, and as such could become a significant tool for neuroscience.

"This model will be helpful in further defining the protein necessary for synapse formation," Merlie says. "It also will increase understanding of how neuromuscular junctions develop and function in different species and at different ages, both with regard to the components within the cell membrane and the proteins present there."

Scientists have recognized for some time that a protein, normally concentrated under the postsynaptic membrane, has a close association with receptors for acetylcholine, one of the primary chemicals involved in nerve transmission. This region of the cell membrane contains between nerve cells and muscle cells. A receptor is a protein, usually found on the postsynaptic membrane, capable of binding proteins like acetylcholine and transferring signals from outside to inside the cell. The receptors in their normal location contain to components within the cell. It is well known that acetylcholine receptors must cluster in the postsynaptic membrane in order for synapse formation to occur. However, this work shows for the first time that acetylcholine receptors are unable to cluster without the 43-kD protein.

For the study, Merlie and his colleagues placed adult and fetal acetylcholine receptors from mice into fibroblast cells. Then they introduced a cloned 43-kD protein and found that the acetylcholine receptors accumulated in large clusters on the surface of the postsynaptic membrane. "That suggests that 45-kilodalton protein can induce acetylcholine receptor clustering," Merlie says. "It also suggests that the protein must be in direct contact between acetylcholine receptors and the 45-kD protein for clustering to occur."

Going to the source

For more than 50 years, researchers have been searching for the elusive "cholinergic factor" that is one of the principal chemicals necessary for transmitting signals between nerve cells and muscle cells. Despite this knowledge, a detailed understanding of the cholinergic factor has eluded scientists. Researchers have examined various aspects of the acetylcholine receptor and have sequenced postdoctorate days at the Pasteur Institute in France in 1973, but his focus rests in defining the proteins that compose synapses.

Much is known about the actual lines of communication — the release of acetylcholine from nerve endings to bind with the receptor — but relatively little is known about what goes on inside the cell membrane where acetylcholine receptors are firmly entrenched. This position allows the researchers interest Merle and his colleagues.

One of the most promising sources of information for their work is the torpedo, a marine ray that is a rich source of the protein 5-laminen, another synaptic protein, and as the first and then to study the five genes for the acetylcholine receptor itself.

"One of the things that plagued us is that receptors and 43-kD are so rare that we could cluster and unless they're clustered," Merlie says. "So 'it's possible that individual receptors are dispersed in the membrane in a normal muscle already associated with a single 5-laminen, another synaptic protein, and as the first and then to study the five genes for the acetylcholine receptor itself.

A Series of Firsts

Over the years, Merlie and his colleagues have published a number of scientific papers detailing their findings. The group's most recent report was in the Proceedings of the National Academy of Sciences in 1987, when the Washington University team cloned the first 45-kilodalton protein. The researchers then examined 5-laminen, another synaptic protein, and as the first and then to study the five genes for the acetylcholine receptor itself.

Medical employees will receive T-shirts during centennial

In recognition of the School of Medicine's 100th birthday, Centennial T-shirts will be distributed to the School of Medicine's staff, faculty, and students.

T-shirts will be given away free April 30 - May 3 to the medical school's faculty, staff and students. T-shirts will be distributed from 9 a.m. to 4 p.m. on the second floor of the Clinical Sciences Building. To receive a T-shirt, employees need to show their School of Medicine ID cards. One T-shirt will be distributed per School of Medicine ID, so those picking up T-shirts for others need to bring those people's IDs.

Above the sign of the centennial and as a thank you to employees for their efforts, the School of Medicine will provide a free hot dog, soup, pop, and cookies.

Commemorative posters have been displayed throughout the medical school to serve as a reminder of the school's commitment to "perpetual excellence." Even the medical school postage meter machine remains, with many now dispensing centennial postage stamps.

The Centennial committee is headed by M. Kenton King, M.D., Danforth Professor of preventive cardiology and former dean of the School of Medicine. Future centennial activities will be announced in upcoming issues of the Medical Record.

Diabetes bike-a-thon calling for cyclists to pedal for May 4

Team Washington University wants you.

The only skills required are the ability to ride a bicycle and desire to pedal for a good cause. The American Diabetes Association (ADA) team of 60 cyclists from the School of Medicine will participate in the ADA bike-a-thon May 4, but there's room for more.

The team, which numbered 30 last year, wants at least 75 participants in this year's event. Members hope to raise $10,000 — double the amount raised by the group last year. Persons with all levels of cycling experience are encouraged to take part. Faculty, alumni, and students are invited to participate. Those interested should meet at the Graffon, Ill., campus parking lot at 9 a.m. of the day of the event. Events begin by the Heart Institute and lunch and emblazoned with Team Washington University, organized by the ADA. A team of 60 cyclists from the School of Medicine will participate in the ADA bike-a-thon May 4, but there's room for more.

The ADA bike-a-thon is sponsored by the American Diabetes Association (ADA). A team of 60 cyclists from the School of Medicine will participate in the ADA bike-a-thon May 4, but there's room for more.

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Effective July 1, 1991, you may choose to invest your contributions and the University contributions to your retirement plan in the Vanguard family of funds or the Teachers Insurance and Annuity Association (TIAA)/College Retirement Equities Fund (CREF). A second change is the option to receive your retirement accumulation in a lump-sum upon attaining age 55 AND have separated from service. Those employees who are older than 55 years of age and have separated from service (i.e. retirement, resignation, etc.) may receive a cash settlement at retirement, participants will be asked to sign a settlement at retirement, participants may elect to receive cash or an annuity. Again, the cash option is available to those employees who are older than 55 and have separated from service. Annuity mailing.

The request for a calculation form is included in your annuity mailing. The calculation form is designed to help you understand the changes and new options, we have scheduled group presentations. These amounts are based on past performance and in no way indicate or predict the future performance of these investments. The amounts are rounded to the nearest 10th of a percent. These amounts have not been audited or otherwise verified by the University. Questions, change forms, applications and transfer forms should be directed to: Hilltop Campus — Sylvia Pedecord or Kevin Nussbaum, 889-5990, Box 1184, Medical Campus — Mary Walsh or Tricia Asbury, 362-4937 or 362-7204, Box 9002.

For the location and to schedule a question-and-answer session, approximately 45 minutes, with a 15-minute question-and-answer session. The University generally requires a 60-day advance notice in order to receive a calculation. If you desire to contribute cash, please initiate the cash out of your annuity mailing. The request for a calculation is included in your annuity mailing. The three drawings are included in your annuity mailing. The 45th annual Chancellor’s Staff Day will begin in Edison Theatre at 11 a.m. with the staff service awards and recognition ceremony, followed at noon by lunch, free to all staff with a ticket, in Bowles Plaza and the Mallinckrodt Center cafeterias. For more information about participating in the numerous family of funds. See your retirement annuity mailing for particular options.

Hilltop Campus — May 2, 9 a.m., noon and 3 p.m.

Medical Campus — May 1, 9 a.m. and 3 p.m.

May 2, 9 a.m., noon and 3 p.m. Medical School Library Conference Room, 6th Floor.

The presentations will last approximately 45 minutes, with a 15-minute question-and-answer session.

Contributions

Participants in the basic retirement annuity may change their tax-deferred contribution as of July 1, 1991. All eligible employees who are not participating should consider enrolling at this time. You are eligible if you are: a faculty member carrying half the regular course load, or a staff member working 1,000 hours in a year.

Generally, your salary reduction (tax deferred) contributions are limited to the following amounts expressed as a percent of salary (net of any deferred compensation):

<table>
<thead>
<tr>
<th>Salary Range</th>
<th>Percent of Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $20,000</td>
<td>10.5%</td>
</tr>
<tr>
<td>$20,000 but less than $22,500</td>
<td>9.5%</td>
</tr>
<tr>
<td>$22,500 but less than $25,000</td>
<td>8.5%</td>
</tr>
<tr>
<td>$25,000 but less than $27,500</td>
<td>7.0%</td>
</tr>
<tr>
<td>$27,500 but less than $30,000</td>
<td>6%</td>
</tr>
<tr>
<td>$30,000 and above</td>
<td>5%</td>
</tr>
</tbody>
</table>

Required Contributions

Under $20,000 Waived

$20,000 but less than $22,500 1%

$22,500 but less than $25,000 2%

$25,000 but less than $27,500 3%

$27,500 but less than $30,000 4%

$30,000 and above 5%

Contributions for union employees are in accordance with the union contract.

Investment options

Effective July 1, 1991, TIAA and Vanguard are detailed in your retirement annuity mailing. These amounts are based on past performance and in no way indicate or predict the future performance of these investments. These amounts are rounded to the nearest 10th of a percent. These amounts have not been audited or otherwise verified by the University. Questions, change forms, applications and transfer forms should be directed to: Hilltop Campus — Sylvia Pedecord or Kevin Nussbaum, 889-5990, Box 1184, Medical Campus — Mary Walsh or Tricia Asbury, 362-4937 or 362-7204, Box 9002.

All requests for calculations must be received in the payroll office no later than April 30. All change forms and calculation requests must be received in the appropriate benefits office no later than 5 p.m. May 31.

Personnel News

Personnel News appears monthly in the Record and the four University of Missouri Systemwide Personnel News is designed to Keep Washington University employees and their families informed of the benefits and opportunities available at the University.
Lectures

Thursday, April 25
11:00 a.m. Seminar Series, "Tranposons and the Reverse Genetics of E. coli," Doug Boyer, prof., WU Dept. of Microbiology and Molecular Sciences, McDonnell Medical Sciences Bldg.


7:00 p.m. U.S. Senate; Carnegie Institute, Geophysical and Planetological Library, Level 5. Exhibit hours: 8:30 a.m.-5 p.m. weekdays; 1-5 p.m. weekends.

Friday, April 26
9:15-10:30 a.m. Pediatric Grand Rounds, "Surgical Effects and Clinical Management of Childhood Leukemia," Joseph H. Gray, M.D., Children's Hospital Medical Center, Columbus, Ohio. Physician and Scientists, 900 Washington Ave.

9:00 a.m. Noon. Dept. of Genetics Seminar, "Symposium on Human Ecology and Microbiology." Room 816 McDonnell Medical Sciences Bldg.


Saturday, April 27
9:00 a.m. Noon. Dept. of Genetics Seminar, "Symposium on Human Ecology and Microbiology." Room 816 McDonnell Medical Sciences Bldg.

Tuesday, April 30
11:00 a.m. Seminar Series, "New Vine at Missouri," Jeff Schmitt, ass. prof., WU Dept. of Anatomy and Neurobiology, Room 520 McDonnell Medical Sciences Bldg.

Thursday, May 2
11:00 a.m. Seminar Series, "New Vine at Missouri," Jeff Schmitt, ass. prof., WU Dept. of Anatomy and Neurobiology, Room 520 McDonnell Medical Sciences Bldg.

Friday, May 3
11:00 a.m. Seminar Series, "New Vine at Missouri," Jeff Schmitt, ass. prof., WU Dept. of Anatomy and Neurobiology, Room 520 McDonnell Medical Sciences Bldg.

Saturday, May 4

Wednesday, May 5
10:00 a.m. Noon. Dept. of Genetics Seminar, "Symposium on Human Ecology and Microbiology." Room 816 McDonnell Medical Sciences Bldg.

Friday, May 10
11:00 a.m. Seminar Series, "New Vine at Missouri," Jeff Schmitt, ass. prof., WU Dept. of Anatomy and Neurobiology, Room 520 McDonnell Medical Sciences Bldg.