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Patents issued to develop plants as edible vaccines

The United States Patent Office has granted two patents on the production and use of transgenic, or genetically engineered, plants as edible vaccines to protect against a wide variety of infections — bacterial, viral, fungal and parasitic.

Roy Curtiss III, Ph.D., the George Wohl Professor of Biology in Arts and Sciences; and Guy Cardinaux, Ph.D., a scientist with Myogen Corp. of San Diego, Calif., are the co-inventors of the patented technology, which has been assigned to Washington University. The University has granted Myogen an exclusive license to develop these edible vaccines for prevention of animal and human infectious diseases, and Myogen will be developing commercial products based on these technologies. Patents have been issued or are pending in other countries.

The news was announced last week in Chicago at the annual meeting of the American Association of Agricultural Editors.

Myogen hopes to begin with edible vaccines in animal food promoting checking of pigs from respiratory and intestinal diseases. Vaccines for cows, with their more complex digestive tracts, would come later. The technology also holds promise of helping control food-borne diseases in humans, such as those caused by E. coli and Salmonella bacteria.

The first edible vaccines will not be available for several years. When they do appear, however, the global market is expected to be substantial. According to the World Health Organization, infectious diseases claim the lives of more than 12 million children under age five each year. Two million of those deaths could be prevented by vaccines already available.

Additionally, 40,000 adults die every year of vaccine-preventable diseases, according to the Centers for Disease Control.

Curtiss and Cardinaux conceived of the idea for plant vaccines and initiated their collaborative research in 1983. Curtiss was then a scientific advisor for Sungene Corp., a California plant bio-technology company that employed Cardinaux as a plant molecular biologist. The concept was to endow plants with the genetic ability to synthesize proteins or other antigens normally present on the surface of various infectious disease agents. As an animal ingests the plant material — leaves or seeds, for instance — would recognize the pathogen antigens as foreign and mount an immune response that would protect against infection by that microbe.

An important feature of edible vaccines is their ability to induce mucosal immunity — the secretion of antibodies in saliva, tears and milk and in all the other secretions that bathe the mucosal surfaces in the respiratory, gastrointestinal and genitourinary tracts. The secretory antibodies account for about 75 percent of the antibodies the body makes and serves as a first line of defense against pathogens that enter the body by attaching to or invading through a mucosal surface. Most pathogens use this route of entry.

Curtiss and Cardinaux initiated their research with tobacco because it is easy to manipulate genetically, even though ultimately it could not be useful as an edible vaccine. They engineered tobacco to produce surface protein antigens of Streptococcus mutans, the principal cause of tooth decay, and were able to induce in mice fed the transgenic tobacco a mucosal immune response against S. mutans protein antigens.

Transgenic alfalfa surrounds Roy Curtiss, Ph.D., as he displays dried, harvested plant material — leaves or seeds, for instance — that would recognize the pathogen antigens as foreign and mount an immune response that would protect against infection by that microbe.

Continued on page 6

Plans for Wohl student assembly hall go forward

The Clayton Board of Aldermen has approved Washington University's plan to construct College Hall, an addition to the Wohl Student Center.

The two-story, octagon-shaped structure will be attached to the west side of Wohl. It will house an assembly room on the second floor and a fitness center on the first floor. The $1,100-square-foot addition is expected to be completed by fall 1998.

The assembly area will hold 150-400 students and will serve as a common gathering area for residents of the South 40. It will play an integral role in the new residential college philosophy of the South 40. Residential colleges are subset communities of students that aim to provide students with an enhanced sense of pride and kinship, expanded programmatic choices and increased faculty and staff presence and support.

The new approach began last fall, when the existing residence halls on the South 40 were divided into eight residential colleges. When construction of the new residence halls is completed, the student community of as many as 2,800 students will contain more than 10 residential colleges.

The new assembly area will provide the only space on the South 40 large enough for a residential college to meet.

The fitness center will be primarily for students, but faculty and staff also may use it. It will contain aerobic equipment, such as rowing machines and stationary bicycles, and possibly a sauna and whirlpool.

Mackey Mitchell Associates of St. Louis is the design firm for the addition. The design should be finalized by the end of the year and then bids will be requested from construction companies. Construction is scheduled to begin in the spring.
Well-baby screening
At a Nov. 9 well-baby screening at the Vietnamese Lutheran Church, second-year medical student Lynn Henry measures the head of 2-year-old Jimmy Dang. Henry and others in the Asian Pacific American Medical Student Association (APAMSA) conduct screenings each month in the local Vietnamese community. The APAMSA is dedicated to serving the interests of Asian-American medical students and addressing health issues in the local Asian-American community.

Quitting smoking
Withdrawal symptoms most severe in women with psychiatric illnesses

Giving up smoking is harder for some than for others. Though it generally is true that quitting is more difficult for those who smoke more cigarettes every day and smoke for longer, School of Medicine investigators have found that psychiatric illnesses also may contribute to severe withdrawal symptoms, making it even harder for those smokers to stop. The investigators, led by Pamela A.F. Madden, Ph.D., the Harriet B. Spoehrer Professor and professor of molecular biology and pharmacology at the Queensland Institute of Medical Research in Brisbane, Australia, have learned that more than 550 Australian women who were asked to document their smoking histories, determine their history of nicotine dependence and catalog their nicotine withdrawal symptoms.

This study, which was supported by National Institutes of Health grants, was reported in a recent issue of the journal Addiction.

"I was interested in whether there were different profiles of nicotine withdrawal symptoms and if so, whether certain combinations of symptoms might be more likely to occur in smokers with a history of psychiatric disorder," Madden said. "The literature suggests an association between nicotine dependence, nicotine withdrawal and a history of major depression, a psychiatric disorder that is fairly prevalent in women." The researchers limited the survey to women.

Madden found that most women in the study experienced one of three levels of nicotine withdrawal: mild, moderate or severe. About 41 percent of smokers suffered mild withdrawal from nicotine, with most experiencing only a few symptoms. Another 36 percent were rated with moderate withdrawal symptoms. The severe group comprised about 18 percent of smokers in the study.

The withdrawal symptoms evaluated in this study included nervousness, trouble concentrating, depressed mood, nicotine craving, irritability, restlessness, headachesc, drowsiness, upset stomach, slowed heart rate, increased appetite, decreased sex drive, anxiety and sleepiness. Symptoms that best distinguished smokers with severe withdrawal were characteristic of mood disorder. Of the study subjects who had experienced severe nicotine withdrawal, 84 percent reported a depressed mood after quitting cigarettes, 82 percent suffered with nervousness and 58 percent had insomnia. Only 20 percent of those with moderate withdrawal symptoms felt nervous when they stopped smoking.

After identifying subjects by level of nicotine withdrawal, Madden looked for associations between the severity of withdrawal and a lifetime history of psychiatric illness or specific personality traits. The idea was to identify factors that might predispose a patient to nicotine withdrawal symptoms.

If those with certain personality traits or psychiatric disorders are more likely to suffer severe nicotine withdrawal, clinicians could offer these patients greater levels of intervention before the attempt to quit smoking begins and nicotine withdrawal becomes an issue.

Among those reporting severe withdrawal symptoms, Madden found associations with mood and anxiety disorders. Conduct disorders as adolescents also were common in those who suffered severe nicotine withdrawal, but those problems did not correlate with lower levels of withdrawal.

"When we looked at those associations, we found that, compared with non-smokers, only those who suffered from severe nicotine withdrawal were more likely to have psychiatric disorders," Madden said. "Those with mild to moderate levels of withdrawal were no more likely than non-smokers to be depressed, anxious or suffer from other psychiatric problems."

Madden plans further analysis of this data to look more closely at genetic and personality factors involved with nicotine withdrawal. All women surveyed in the study were twins, so she hopes to look at whether symptoms of nicotine withdrawal and other indicators of nicotine dependence run in families.

"— Jim Dryden"

Schwartz receives grants to study receptor molecule, protein degradation

A Ian L. Schwartz, M.D., Ph.D., the Arthur B. Speerle Professor and head of the Department of Pediatrics, has received a $1.1 million grant to study the structure and function of a receptor molecule that helps regulate many activities in blood and in blood vessel linings. The four-year grant comes from the National Institutes of Health. The APAMSA is dedicated to serving the interests of Asian-American medical students and addressing health issues in the local Asian-American community.

Clifford named vice chair of neurology
David B. Clifford, M.D., has been named to the position of vice chair of the Department of Neurology. He will assume his duties Jan. 1, 1998.

Clinical representative to the executive director, University Communications: Judith Jumper Editors: Betty Rogers, (314) 935-6600, and Jesica Michaud, (314) 935-5221
Electronic Record: To view the Record on the Web, send to Payroll Human Resources, Washington University, Campus Box 1070, One Brookings Drive, St. Louis, MO 63130. Postage paid at St. Louis, Mo.

WASHINGTON • UNIVERSITY- IN -ST- LOUIS

Clifford, a professor of neurology, will assume the position of vice chair of the Department of Neurology. He will assume his duties Jan. 1, 1998.

"He's a wise man whose talents in patient care, the organization, and the mentoring of junior faculty. He also sits on the boards of St. Louis Regional Medical Center and the Institute of Medical Education and Research. He is a staff physician at Barnes-Jewish Hospital and chief of neurology and president of the medical staff at Barnes-Jewish Hospital, the organization succeeding Regional Medical Center.

As a principal investigator of the federally funded Neurologic AIDS Research Consortium, Clifford coordinates clinical trials that address neurologic disorders among HIV-infected patients, more than half of AIDS patients develop serious neurological complications such as dementia, painful neuropathy or rapidly fatal damage to the spinal cord. A disorder named distal sensory neuropathy is spreading throughout the University research. Current therapies try to block the pain, but Clifford's group is determining whether a recombinant form of nerve growth factor might restore damaged or dying neurons to a more normal state of health.

Clifford joined the faculty as a research instructor in neurology in 1991, attaining the rank of professor by 1994. He also is clinical representative to the executive faculty at the School of Medicine.
Tae Sung Park, M.D., talks with Linda Rohde, whose son Kory has hydrocephalus, to help him acquire more movement in his legs. Kory will undergo surgery.

Tae Sung Park, M.D., has received a host of accolades that come by自然,” says Park, who also has a framed picture of a smiling 7-year-old girl, a one-time hydrocephalus patient. Above the photo is a poem: “God gave me mommymommy/Dad gave me daddy/God gave me my sisters, too/But there’s a special gift that God gave me/And that special gift was you. Thank you for making me better, I love you. Bobbi Sue.”

Along with this work, Park is known widely for his clinical research. Last August, he was recruited to St. Louis Children’s Hospital to serve as the neurosurgeon-in-chief at St. Louis Children’s Hospital. “You can see him running and skiing with no problem,” Park also has a framed picture of a smiling 7-year-old girl, a one-time hydrocephalus patient. Above the photo is a poem: “God gave me mommymommy/Dad gave me daddy/God gave me my sisters, too/But there’s a special gift that God gave me/And that special gift was you. Thank you for making me better, I love you. Bobbi Sue.”

Along with his clinical work, Park is researching the treatment of brachial plexus injuries, which can occur when a baby’s shoulder gets caught in the birth canal during delivery. Although most of these children regain strength in their arms, 30 percent to 20 percent have some lasting disability, especially difficulty bending their arm or raising their shoulder. In his clinic at Children’s Hospital, Park and Noetzel have treated the second-largest number of infants with brachial plexus injury in the United States. They are trying to identify the children who are the best candidates for surgery, as well as the optimum age for surgery.

Along with his clinic work, Park is researching the regulation of cerebral blood flow in the tiny vessels of newborns. He began this work in 1983 at Virginia. In 1987, he and his mentor, Robert Berne, M.D., then chair- man of the physiology department, were the first to demonstrate the role of adenosterone, produced by neurons in a newborn brain when it runs short of oxygen.

Now working with Jeffrey M. Giddley, Ph.D., associate professor of neurological surgery, Park has continued this work in St. Louis. In 1995, they received a four-year, $1.2 million grant from the National Institute of Neurological Disorders and Stroke to study an inflammatory response that can damage blood vessels, and thus kill neurons, in the brains of newborns with oxygen deprivation or low blood pressure. This damage can lead to neurological disabilities, such as cerebral palsy, epilepsy or mental retardation.

“Dr. Park has an unusual ability to identify promising ideas and techniques and apply them in the laboratory,” says Giddley. “He is also dedicated to making neurosurgeons in the country who has successfully maintained a basic science lab, along with many clinical and administrative responsibilities.”

For all the contributions he has made to his field, Park might have never become a pediatric neurosurgeon if he hadn’t made a discovery at a crucial moment. Born in Korea, Park had graduated in 1967 from the Medical School of Seoul in Seoul and in 1971 from the Yonsei University School of Medicine. During his last year at Yonsei, he happened upon a pediatric neurosurgery textbook.

“It seemed entirely new to me,” he said. “I was very excited. I decided to do that. I wrote to Dr. Jane at the University of Virginia and asked him if I could do pediatric neurosurgery training.”

So after finishing his neurosurgery training in Korea, with a first place in the board exam, he embarked on another six years of U.S. residencies and fellowships. He spent four years in Virginia for a second neurosurgery residency, a year in Ohio for a pediatric surgery residency at Columbus Children’s Hospital, six months at Massachusetts General Hospital for a research fellowship in pediatric neurosurgery and, finally, a year at Toronto’s Hospital for Sick Children for a pediatric neurosurgery Fellowship.

“It was a long process, but I was in luck,” says the American Board of Neurological Surgery written exam and scored in the 100th percentile. “That gave me a little confidence,” he said, modestly. “I thought that perhaps I could compete here.”

Recruited to St. Louis

He took his first job in 1983 at the University of Southern California School of Medicine, but after a year Virginia lured him back to become assistant, then associate professor of neurological surgery and pediatric. But Virginia did not have a children’s hospital — the — so when Ralph G. Dacey Jr., M.D., the Edith R. and Henry G. Schwartz Professor and head of the Department of Neurological Surgery, recruited him to come to St. Louis, he accepted.

“I was so impressed by the people I met, both at Washington University School of Medicine and at Children’s Hospital,” he said. “It is a great children’s hospital with a wonderful reputation, so it was easy to make the decision. And ever since, I have been blessed to work with wonderful colleagues.”

Today, one of the roles he enjoys most, in addition to his clinical practice and research, is training residents. Instead of teaching techniques, he said he focuses on teaching the principles of pediatric neurosurgery and providing a role model as a teacher, physician and scientist.

“Our residents are some of the best in neurosurgery,” Park said, “and if we just plant something in their brains — we don’t have to force it on them — we can influence their whole professional career.”

In his spare time, he occasionally plays squash or golf. But most of all, he likes to spend time with his family. His wife, Hyun Sook, is an artist; his daughter, Mina, is a senior at Harvard University; his son, Thomas, is a sophomore at DePaul University in Chicago.

As a physician, he says, he is doing exactly what he wanted to do when he was a boy in Korea — and the momentum from patients show that he has been successful. “I wanted to be of service to people,” he said. “This career was, to me, one of the best ways.”

— Candace O’Connor
Exhibitions


Lectures

Thursday, Nov. 13

10 a.m. "Perceptual Symbol Systems." Lawrence Barsalou, prof. of psychology, Emory U. Room 102 Music Classroom Bldg. 935-4841.


Monday, Nov. 17


Films

Thursday, Nov. 13

8:30 p.m. "Circle the Center." Jutta Pluemer, associate professor of English, Colgate U. Yellin Auditorium. 362-2746.

Friday, Nov. 14

7 and 9:30 p.m. Filmboard Feature Series. "People vs. Larry Flynt" (1996). (Also Nov. 15, same times, and Nov. 16, 7 p.m.). Cost: $3 first visit, $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Midnight. Filmboard Midnight Series. "Shaft" (1971). (Also Nov. 15, same time, and Nov. 16, 9:30 p.m.). Cost: $3 first visit, $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Tuesday, Nov. 18

7 and 9:30 p.m. Filmboard Foreign/Classic Series. "Fellini's Roma" (1972). (Also Nov. 19, same times). Cost: $1 first visit, $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Wednesday, Nov. 19

6:30 p.m. Japanese Film Series. "Vampire Hot Springs" (1985, dubbed in English). Room 219 S. Ridgley Hall. 935-5156.

Friday, Nov. 21

7 and 9:30 p.m. Filmboard Feature Series. "African Poets." (Also Nov. 22, same time, and Nov. 23, 7 p.m.). Cost: $3 first visit, $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Midnight. Filmboard Midnight Series. "Sweeties" (Also Nov. 22, same time, and Nov. 23, 9:30 p.m.). Cost: $3 first visit, $2 subsequent visits. Room 100 Brown Hall. 935-5983.

Saturday, Nov. 22


Selections from the Washington University art collections, "Lessen Baudk Printings, "The Age of Rembrandt" and "The Making of the Artist as Writer."

Exhibitions

"Vampire Hot Springs" (1985, dubbed in English). Room 219 S. Ridgley Hall. 935-5156.


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Robert Proctor, science historian, closes Nazi lecture series Nov. 13

Robert Proctor, an authority on the history of science, will conclude a three-part series of lectures on Nazism at 4 p.m. Thursday, Nov. 13, with the Assembly Series' Thomas Hall Lecture titled “Science and Medicine in the Service of Nazism.” Proctor will speak in room 215, Reebstock Hall.

Proctor is a professor of the history of science at Pennsylvania State University, specializing in 20th century biotechnology, science and medicine. He is the author of “Racial Hygiene: Medicine Under the Nazis,” a study of science and science policy under National Socialism; “Value-Free Science? Parity and Proves in Modern Knowledge,” a study of science’s ideological and philosophical relationships to politics; and “Cancer Wars: How Politics Shapes What We Know and Don’t Know About Cancer,” a recent review of the political controversies that also featured Michael Berenbaum, professor and director of the Simon Wiesenthal Center’s Genesis Project; a three-part series of lectures on Nazi science policy and research in the 1930s and early 1940s.

Before arriving at Penn State, Proctor chaired the Program in Science, Technology and Power at Eugene Lang College at the New School for Social Research. From 1986 to 1990, He was visiting lecturer in the history departments at Stanford University (1985) and Virginia Polytechnic Institute (1984); an instructor and teaching fellow in the history of science and history of science and science policy at Harvard University from 1976 to 1984; and scholar-in-residence at the U.S. Holocaust Research Institute at the Holocaust Memorial Museum in Washington, D.C. in 1994.

Proctor earned a bachelor’s degree in biology from Indiana University in 1976 and a master’s degree and doctorate in the history of science from Harvard University in 1977 and 1984, respectively. Proctor’s lecture series concludes a series that also featured Michael Berenbaum, professor, and David Schneir, a historian of the science of genocide, at the U.S. Holocaust Memorial Museum in Washington, D.C. in 1994.

The lecture is free and open to the public. For information, call 935-5285.

Wind Ensemble presents ‘Music of Armenia’

The Washington University Wind Ensemble will present a program of the “Music of Armenia” at 2:30 p.m. Sunday, Nov. 16, in The Saint Louis Art Museum Auditorium.

The concert is sponsored by the Department of Music in Arts and Sciences and is free and open to the public. "By performing these works, I want to expose students — both the members of the wind ensemble and those in the audience — to the exciting repertoire of music based on Armenian folk tunes," said Dan Prozsgave, wind ensemble director and lecturer in the music department.

Presgave added that he hopes the program will appeal to St. Louis’ Armenian community.

The program will include Aram Khatchaturian’s “Armenian Dances,” as well as works by Loris Chobanian and Alfred Reed, also titled “Armenian Dances.” Also on the program are Alan Hovhaness’ “Hymn to Yerevan” and music by Mikhail Ippolitov-Ivanov.

For more information, call 935-4841.

Lecture focuses on making ‘great streets’

Ailan B. Jacobs, a professor in the city and regional planning department at the University of California at Berkeley and a Ruth and Norman Moore Visiting Professor, will discuss “The Making of Great Streets” at 8 p.m. Monday, Nov. 17, in Steinberg Auditorium as part of the School of Architecture’s Monday Night Lecture Series. The lecture is free and open to the public.

Jacobs will also meet with members of the University community and St. Louis civic leaders to discuss urban planning issues.

Jacobs is known for his work at the forefront of urban planning and in particular for his research on what creates streets with vitality. His book “Great Streets” discusses the characteristics of 15 streets that he considers the finest in the world. The work analyzes medieval streets in Rome and Copenhagen; streets "in the grand manner" in Barcelona, Paris and Antwerp; and "one great streets," such as the Avenue des Champs-Elysées in Paris, Via del Corso in Rome and Market Street in San Francisco.

Jacobs also includes an examination of resi- dential buildings, streets lined with trees and tree-lined streets, as well as details about the 15 great streets’ dimensions, plans, sections and patterns of use.

Jacobs also has written "Looking at Great Streets" and "Making City Planning Work," as well as numerous articles. For more information, call 935-6200.
Software Library offers computer users benefits

There's an untraditional library on the Hilltop Campus. Rather than books and bindings, it deals in bits and bytes.

The Software Library (TSL) is a cooperative set of software: users at Washington University. Users join program groups within TSL based on their interests in applications and operating systems they use. The idea behind the co-op is to lower the price of software.

By banding together, members receive volume purchases discounts on software. The co-op is similar to save money for the departments," said Don Blair, associate director of TSL.

In addition to lower prices, TSL provides hardware maintenance, technical support and upgrade services. This ensures that members receive the latest versions of their programs as well as access to technical support for these programs. TSL also maintains and administers any related contracts.

Currently, TSL has 22 program groups with about 1,200 members from all eight schools as well as administrative offices.

Annual membership fees run from $30 to thousands of dollars, depending on the program. Many of the programs cover high-quality, technical and scientific software; but TSL also has programs for Macintosh and PC operating systems and even software applications.

By directly working with manufacturers, TSL can get the lowest software prices. Often, more members mean a 20 percent of the cost of purchasing single copies of software.

TSL was started in 1985 by a group of faculty members led by Jerome R. Cox Jr., Se. D., the Harold B. and Adelaide G. Welge Professor of Computer Science. The collaborative's major service is administering a University-wide project to install a computer network. When software prices began to rise, the idea expanded.

Today, TSL is an independent office with a staff of four. Located on the first floor of Prince Hall, TSL generates its own budget through the money it collects in membership fees.

TSL is user-friendly; almost everything can be done without leaving your computer keyboard. Through TSL's Web site, people can join a program, renew existing membership or order software. Members can request that the disks and documentation be delivered to their office by courier. Some software can be loaded from the computer network.

It is also flexible. As a cooperative, its members determine its programs. "We're reactive in terms of investigating software. When it creates a need, we test it," Blair said. "In terms of software, we're a grass-roots cooperative made of software users."

For more information about TSL, call 935-7388 or visit TSL's Web site at tsl.wustl.edu.

— Martha Everett

Edible plant vaccine patents granted—from page 1

Mucosal immunity with secretory antibodies in saliva is very important in preventing the bacteria that cause tooth decay from sticking to teeth.

Patent applications on this work were filed in the United States and other countries in 1988 and 1989. More recently, Curtiss and his Washington University colleagues have generated genetically modified alfalfa expressing E. coli antigens to control diarrheal diseases. Other researchers in the United States and abroad have been using the technology to develop plant vaccines in alfalfa, tomatoes, bananas and potatoes to prevent both bacterial and viral infectious diseases.

"I am excited that these ideas and discoveries that Guy and I had in the mid-1980s are likely to generate some vaccines, at very reasonable costs, to lessen the impact of infectious diseases in both animals and humans," Curtiss said. "This will be particularly important in the developing world. It is also possible that these plant vaccines can be used for other diseases other than diarrheal ones, perhaps for correct autoimmune diseases. If so, we will have additional reasons to be thankful for plants in improving the environment in which we live, our nutritional status and our health."

Curtiss was formerly chair of the Department of Biochemistry in Arts and Sciences and director of the Center for Plant Science and Biotechnology. He was named Missouri Inventor of the Year in early 1997.

— Tony Fitzpatrick
Introducing new faculty members

The following are among the new faculty members appointed to the University of Wisconsin Campus. Others will be introduced periodically in this space.

Robert E. Brasington, M.D., associate professor of medicine, had been an associate professor at the University of Michigan Medical School before joining the Division of Rheumatology in 1995. He received a bachelor’s degree from Harvard University in 1974 and a medical degree from the University of Michigan in 1980. Brasington completed a six-year fellowship in internal medicine and rheumatology fellowship at the University of Iowa in 1986. He spent the next two years as an instructor at the University of Wisconsin, Madison, and as a physician at the Marshfield Clinic. A physician at Barnes-Jewish Hospital, Brasington joined the University of Wisconsin, Madison, and has been interested in osteoporosis. His research focuses on bone cells and their response to changed environments.

Mark A. Minuth, M.D., associate professor of physiology, comes from the University of Connecticut Health Center where he served as medical director of an imaging facility. He earned a bachelor’s degree from the Massachusetts Institute of Technology in 1977 and a medical degree from Harvard University in 1981. That year, Minuth received the Hugh W. Nance Award for Research in Radiology. He took a one-year internship at the University of Illinois, followed by a research fellowship in neuroscience and a nuclear medicine residency at the University of Wisconsin, Madison. He was an assistant professor here from 1985 to 1989 before holding associate professor positions in the Universities of Michigan and the University of Pittsburgh. He currently studies energy needs of neurons in the visual cortex with position emission tomography (PET). His research focuses on analyzing the effects of antipsychotics on brain chemistry and function.

James B. Skeath, Ph.D., assistant professor of communication, joins the faculty from the University of Illinois, Urbana-Champaign, where he was a postdoctoral fellow. He earned a bachelor’s degree in 1988 from Harveyerd (Pa.) College and a doctorate in communication sciences and disorders from the University of Wisconsin, Madison. He was awarded a Commonwealth-Cope fellowship for Graduate Research from Harveyerd College and was a finalist for the 1994 Larry Sandier Memorial Award. Skeath studies the molecular mechanisms of nervous system development. He is using genetic and other techniques to identify the signals that turn embryonic cells of fruit flies into correctly positioned nervous system precursors. His four-year $283,814 grant from the National Institute of Neurological Disorders and Stroke will be used to continue his work. He and his Damon Runyon Scholar Award starts next January.

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Jonathan B. Lossos* to associate professor of biology in Arts and Sciences
Ronald J. Mann* to professor of law
William B. McKimson to professor of earth and planetary sciences
Michael C. Olgivie to professor of physics in Arts and Sciences
Mimadri B. Paker to associate professor of biology in Arts and Sciences
Shanta Pandey* to associate professor of social work
Gurudatta M. Parulkar to professor of computer science (also director of the Applied Research Laboratories)
Carl B. Safe to professor of architecture
Elishtba Sklodowska to professor of Spanish in Arts and Sciences

Merton C. Bernstein, LL.B., the Walter D. Coles Professor of Law Emeritus, is a widely consulted expert on Social Security, who does not subscribe to the Clinton scenario for Social Security Reform. Bernstein served as the principal author of the American Council on an Actuarial study of Social Security Reform, as a delegate to the National Commission on Social Security Reform, and as a consultant to the Office of the Comptroller General of Social Security.

Mark A. Mintun, M.D., research professor of neurology and of radiology — also serve on the editorial board of Neurology, one of the major clinical neurology journals and the official journal of the American Academy of Neurology. Two other Washington University faculty members — Michael J. Noetzel, M.D., associate professor of neurology and of radiology, and William J. Powers, M.D., associate professor of neurology and of radiology — also serve on the editorial board of Neurology.

Speaking of

John C. Morris, M.D., professor of neurology and associate professor of neurosurgery for the 1997-98 academic year. He was named to the "Cognitive Decline and Dementia" session at the "Neurology and the XVI World Congress of Neurology, held in September in Buenos Aires, Argentina. Morris presented "Cognitive Decline and Dementia" at the congress, which included more than 5,000 neurologists from around the world. He also presented "Metropolitan: Potential Therapy for Alzheimer's Disease" at the "Neuroinformatics" session.

Hilton faculty member receives promotions, tenure

The following Hilton Campus faculty members have received promotions on record as of July 31, 1997. Those with asterisks were appointed to the association through district, state or national organizations.

Fatemeh Keshavaraz-Karamustafa* to associate professor of Persian languages and literatures in Arts and Sciences
Merton C. Bernstein to professor of physical therapy, received the American Physical Therapy Association Merton C. Bernstein Award for his decade-long contributions to the association through district, state or national activities. Among other accomplishments, Minor was recognized for his

Correction

Arthur Mousney's obituary in the Nov. 6 issue of the Record had an incomplete list of survivors. The list should have read: Among the survivors are his wife of 47 years, Janet Mousney; two daughters, Lynda Mousney of Boulderdale, Colorado, and Eileen Mousney of Minneapolis; three sons, John Mousney and Michael Mousney, both of St. Louis, and Steven Mousney of Seattle; a brother, Earl Mousney of Las Vegas; and five grandchildren.

Recent stock market plunge highlights reason not to privatize Social Security

The recent stock market plunge magnified the reason why one doesn’t need to Privatize Social Security, the income by fraud, unwise investments or extending Social Security coverage to the state and local government employees (most are) and taxing benefits as private pensions are.
Audio Visual Coordinator/Event  

- Responsibilities: include coordinating audio visual and presentation components, including content creation, software navigation and systems analysis.
- Requirements: bachelor's degree in computer systems experience; good judgment; ability to work in a dynamic environment with ability to communicate with a variety of staff; excellent expressions, policies and plans effectively, verbally and in writing.

Office Assistant 000110.  

- Responsibilities: include processing and managing mail, handling administrative activities, and providing support to the Director of IT.
- Requirements: high school diploma, some college preferred; strong oral and written communication skills; excellent telephone etiquette; above-average typing skills and proficiency in word processing software; detail-oriented; ability to work independently.

Director of Computing Technology  

- Responsibilities: include providing technical support to users, managing hardware and software, and implementing new software tools and technologies.
- Requirements: bachelor's degree in computer science, 3-4 years experience managing computer systems, and a working knowledge of Unix and network management.

Secretary 000116.  

- Responsibilities: include answering phone calls, scheduling appointments, and maintaining calendars.
- Requirements: high school diploma, college degree preferred; strong oral and written communication skills; excellent telephone etiquette; above-average typing skills and proficiency in word processing software; detail-oriented; ability to work independently.

Program Coordinator 000117.  

- Responsibilities: include assisting with the development and implementation of educational programs.
- Requirements: bachelor's degree in education, 2-3 years experience in educational program development, and strong interpersonal and communication skills.

Librarian 000118.  

- Responsibilities: include managing the library's collection, creating bibliographic databases, and providing reference services.
- Requirements: bachelor's degree in library science, 2-3 years experience in a library setting, and strong interpersonal and communication skills.

Secretary 000119.  

- Responsibilities: include answering phone calls, scheduling appointments, and maintaining calendars.
- Requirements: high school diploma, college degree preferred; strong oral and written communication skills; excellent telephone etiquette; above-average typing skills and proficiency in word processing software; detail-oriented; ability to work independently.

Program Coordinator 000120.  

- Responsibilities: include assisting with the development and implementation of educational programs.
- Requirements: bachelor's degree in education, 2-3 years experience in educational program development, and strong interpersonal and communication skills.

Facilities Plan-  

- Responsibilities: include managing the university's facilities, including construction and maintenance projects.
- Requirements: bachelor's degree in business administration, 2-3 years experience in facility management, and strong interpersonal and communication skills.

Customer Service Representative  

- Responsibilities: include providing customer service and support.
- Requirements: high school diploma, college degree preferred; strong oral and written communication skills; excellent telephone etiquette; above-average typing skills and proficiency in word processing software; detail-oriented; ability to work independently.

Program Coordinator 000121.  

- Responsibilities: include assisting with the development and implementation of educational programs.
- Requirements: bachelor's degree in education, 2-3 years experience in educational program development, and strong interpersonal and communication skills.

Librarian 000122.  

- Responsibilities: include managing the library's collection, creating bibliographic databases, and providing reference services.
- Requirements: bachelor's degree in library science, 2-3 years experience in a library setting, and strong interpersonal and communication skills.

Secretary 000123.  

- Responsibilities: include answering phone calls, scheduling appointments, and maintaining calendars.
- Requirements: high school diploma, college degree preferred; strong oral and written communication skills; excellent telephone etiquette; above-average typing skills and proficiency in word processing software; detail-oriented; ability to work independently.

Program Coordinator 000124.  

- Responsibilities: include assisting with the development and implementation of educational programs.
- Requirements: bachelor's degree in education, 2-3 years experience in educational program development, and strong interpersonal and communication skills.

Librarian 000125.  

- Responsibilities: include managing the library's collection, creating bibliographic databases, and providing reference services.
- Requirements: bachelor's degree in library science, 2-3 years experience in a library setting, and strong interpersonal and communication skills.

Secretary 000126.  

- Responsibilities: include answering phone calls, scheduling appointments, and maintaining calendars.
- Requirements: high school diploma, college degree preferred; strong oral and written communication skills; excellent telephone etiquette; above-average typing skills and proficiency in word processing software; detail-oriented; ability to work independently.