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Rapid progress
Chemist studies molecular path from sunlight to skin cancer

It's almost become a summer rite of passage: have hours on the beach or in the pool and another toddler has his or her first fiery, blistering sunburn.

Now recent research suggests that certain "at-risk" people who get two or more severe sunburns before age 20 are prone to develop the nation's fastest growing type of cancer, malignant melanoma. This form of cancer is killing 30 percent more Americans than it did in 1975. It is being aided by the depletion of the Earth's protective ozone layer, the diffuse layer of molecules in the Earth's upper atmosphere. The ozone layer, our natural sunscreen, was eroded as much as seven percent in the past decade due to the release of chlorofluorocarbons, chemicals found in a variety of everyday materials from freon to styrofoam.

Although scientists are experimenting with several vaccines to combat malignant melanoma, and the National Institutes of Health has given its blessing to test the first treatment using gene therapy for patients with malignant melanoma, there is presently no cure for the disease.

'Morning-after drug'
But what if there were a "morning-after" drug, a simple treatment, like a sunscreen, that millions of mothers could apply to their children to reverse the genetic damage a severe sunburn can cause to skin? That is one of many questions that have driven John-Stephen Taylor, Ph.D., associate professor of chemistry, to explore the molecular pathways that lead from sunlight to skin cancer. The chemist has identified and characterized a type of DNA damage that may be the primary cause of sunlight-induced skin cancer.

Africa's renewal is focus of symposium

The symposium begins at 1 p.m. Sept. 21 with a presentation by Ruth Jhy, a doctoral candidate in political science and African studies at the University of California, Santa Barbara, who will speak on "Ending Regional Conflicts — Ethiopia-Iritrea." Jean Ensminger, Ph.D., assistant professor of anthropology at Washington University, will give a 3 p.m. lecture on "African Economic Recovery — What Prospect?"

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Homecoming — continued from p. 1
will consist of approximately 10 floats and 400 marchers. The parade, which also will feature an Uncle Sam on roller skates and a Vasa fire engine, proceeds as follows: Forsyth west to Big Bend, Big Bend north to Delmar; Delmar east to Skinker; Skinker south to Forsyth; and Forsyth west, back to the parking lot.

Friday, Oct. 5, in the May Auditorium in Simon Hall. Her speech, part of the Assembly Series, is titled "Under Parody, Politics, and Pulitzer Prizes." A reception for Peters, who graduated from Washington in 1965 with a bachelor of fine arts degree, will be held from 3 to 5 p.m. in the Edison Theatre. Peters' editorial cartoons are syndicated in more than 500 newspapers and are featured in animated form under the name "Peters Postscript" on "NBC Nightly News." He also draws a comic strip titled "Mother Goose and Grimm," which chronicles the adventures of bad-boy Grimm, a dog and a befuddled Mother Goose.

The Homecoming parade, which begins at 1 p.m. on Saturday, Oct. 6, in the Athletic Complex parking lot, continues from Washington against Missouri. Homecoming Award competitions.

• Thursday, Oct. 4 —
  • Wednesday, Oct. 3 —
  • Tuesday, Oct. 2 —

Human rights in Africa topic of talk by Kenyan lawyer

Gibson Kamau Kuria, a prominent human rights activist and lawyer from Kenya, will speak on "Human Rights in Africa" at noon on Sept. 21 in Room 200 C and D in Eliot Hall. This lecture, which is part of the Assembly Series, is free and open to the public.

Kuria became involved with human rights in 1982 when his law firm began defending dissidents in Kenya, which became a one-party state that year. An outspoken critic of the one-party system, he served a 10-month prison term in 1987 for defending three political prisoners who claimed the Kenyan government had tortured them.

Last spring he took refuge in the U.S. Embassy after learning Kenyan police intended to arrest him again. Kuria, who has been granted a one-year residency in the United States, is a fellow in the Human Rights Program at Harvard Law School.

Kuria and the director of the Robert F. Kennedy Human Rights Award, hopes to find solutions to Kenya's human rights problems by studying the foundations of U.S. democracy.

This lecture is co-sponsored by the University's Action for Peace, Assembly Series, Black Law Students' Association and the Symposium on African Renewal. For more information, call 889-4620.

CBS correspondent will give lecture

Susan Spencer, the medical correspondent for CBS News, will discuss "Medicine and Journalism: The Challenges of the 90's," during an Assembly Series lecture at 11 a.m. on Sept. 21 in Graham Chapel. Her lecture is free and open to the public.

Spencer also is a national correspondent and anchor for CBS Evening News." has covered stories ranging from a look at Parkinson's disease to America's AIDS crisis. She also anchors "HealthTalk," a weekly CBS Radio broadcast.

Spencer has reported on the presidential campaigns of Walter Mondale and Edward Kennedy and on the 1980 Republican National Convention. In addition to anchoring "CBS Evening News," she is a substitute anchor for "CBS Morning News."

For information, call 889-6620.

Medical school has Edison box office

Edison Theatre has expanded its box office facilities with a location in the McDonnell Medical Sciences Building lobby at the medical school. The box office will be open from 11:30 a.m. to 1:30 p.m. Tuesdays and Thursdays. The medical school box office also will accept credit cards with a check or MasterCard or VISA credit card. Cash will not be accepted. Tickets can be picked up in the box office or mailed.

Edison Theatre box office hours in McDonnell Medical Sciences Building will be 10 a.m. to 6 p.m. Tuesdays and Thursdays, 10 a.m. to 4 p.m. Mondays, Wednesdays and Fridays, and 11 a.m. to 2 p.m. Saturdays. Checks, credit cards and cash are accepted at the Mallinckrodt Center box office. For information, call 889-6543.
At the edge of traumatic human disorder and post-traumatic stress, interviewed where mass murders, psychiatry, and Elizabeth M. Smith, poison-gas leaks and earthquakes research and general expertise. Following is a digest of media coverage:

Taylor's team isolated the product by chromatography, a partition technique; determined its structure by nuclear magnetic resonance spectroscopy, which showed it lacked two dimensions, and tried to find a way to make it synthetically and incorporate it into DNA. He has been able to study the cis-syn product by creating a photoproduct "building block" that can be incorporated into a piece of DNA through standard DNA synthesis. He does this using a computerized machine with components about the size of a small stereo system.

The DNA synthesizer, a technology that blossomed in the 80s, allows him to incorporate the photoproduct into DNA, providing what molecular scientists call a "pure substrate." A model system virtually impossible to develop from nature. He then incorporates the pure substrate into a living system, most likely E. coli, and studies how that system copes with the damage.

The drawback is that the Dewar photoproduct, like the 6-4 photoproduct, is difficult to get produced in sunlight. Taylor says, "DNA building blocks"

"When our skin is exposed to heavy doses of sunlight, the tiny damage sites, the structure of DNA is damaged. The damaged sites are called photodymes. For the last 30 years, scientists have hypothesized that two photodymes, cis-a sym cyclobutane dimer and what is called the 6-4 photodyme, play major roles in the development of skin cancer.

In 1986 Taylor and his research team discovered that the 6-4 product is not stable in sunlight and is converted into another product that, although known to exist, had been previously ignored. Taylor modestly named the compound the Dewar photochromatophore, a partition technique characterized by the 19th-century chemist James Dewar. The team has isolated the Dewar photoproduct in large part because of their experimentation methods. They had been using germicidal lamps to photolyze bacteria at a wavelength of 254 nanometers (the germicidal light) to study the genetic changes in bacteria. The only problem Taylor noted, is that the sunlight that reaches us on the beach comes into the atmosphere at wavelengths greater than 200 nanometers, the length referred to as "sunlight at sea level." He also noted that at 513 nanometers, well within the spectrum of sunlight at sea level, the Dewar photoproduct is converted into the Dewar photoprotectant, which meant it could be the photoprotectant making a silent impact in mutagenesis.

"Once I realized that the light necessary to produce the Dewar photoprotectant is exotic, but it can get into DNA, I knew I had to get its structure, study it and see if we could get it into DNA," Taylor says.

If the ozone layer continues to erode dramatically as it has in the past decade, one in 90 persons will develop melanoma by the year 2000. Taylor is worried about this. "What is absolutely startling is that the single most important factor in the development of a melanoma is exactly that of DNA," Taylor says. "That is, it absorbs the same light as our own DNA absorbs. What's more, the skin is the first. It is uncertain if it evolved before the other parts of the body. That alone makes it difficult to study." Taylor wonders what the relationship is. "I have done some calculations that are bothersome. While we don't have the direction of the ozone layer, it takes one hour for us to get a reasonable amount of DNA damage. At 50 percent depletion of the ozone layer, which is going to cause a reasonable amount of DNA damage. At 100 percent, 10 seconds."

Tony Fitzpatrick

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**Skin cancer**

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**LECTURES**

**PERFORMANCES**

**EXHIBITIONS**

**FILMS**

**MUSIC**

**PERFORMANCES**

**CALENDAR**

**SPORTS**

**THEME:** "It Think It's Going Out Fine," a rock 'n' roll fabulously based on the lives of the Tina Turner, will be performed by Cultural Odyssey on Sept. 25-26 in the Drama Studio in Mallinckrodt Center. Cultural Odyssey is a student-based group; their concerts are free. They will perform on Sept. 29 and at 2 and 7 p.m. Sept. 30. Tickets are $10 for adults and $7 for senior citizens. Tina Turner fans will enjoy the show as well as those who appreciate the diverse music of the 1960s and 1970s. The show will be held in the Mallinckrodt Center on Sept. 30. For more information, call 889-5574.

**MALLINCKRODT CENTER**

**Heighnorthing events deals with differences**

Heighnorthing events deals with differences.

To heighnorthing events deals with differences. At Washington University, the Department of Women's Studies, is sponsoring a Norwich of Disease Week Sept. 22-28.

Among the activities scheduled are a lecture by Ronald L. Jackson, coordinator of the World of Disease campaign, which is designed to reduce racial, religious and ethnic prejudice in the St. Louis area, panel discussions, on panel discussions, with the Department of Women's Studies, and news articles featuring representatives of organizations based in St. Louis and in Washington.

The fair is intended to show students the variety of support services available to them. Representatives from the University's Center for CARE (Chemical Abuse Prevention Education) and the Office for Disabled Students Services, as well as members of religious and ethnic groups, will be on hand to answer questions.

The purpose of Disease Week is to raise the awareness of individuals on issues such as race and gender differences, notes Joey Henderson, director of CARE. The event will focus on the diversity of students and staff and the importance of interacting with individuals from different cultures.

The event will be held from 7 to 9 p.m. in the Women's Building lounge.

The workshop is designed to help individuals become more aware of the ways their perceptions may lead to misinformation when dealing with cultures different from their own.

**For information, call 889-5994.**

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**Perforrmances**

**Sports**

**Calendar Deadline**

The deadline for submitting items for the Oct. 1-15 calendar of the Washington University Record is Sept. 21. Items must be typed and state date, place, nature of event, sponsor and admission fee. Incomplete items cannot be published. If available, include speaker's name and information and the title of the event, also include your name and telephone number. Send items to Andrew Cox, calendar editor, Box 1070, or by electronic mail to c0705@wunc.