A rare opportunity

Summer institute offers high schoolers 'hands-on' taste of engineering

Thirty-seven St. Louis-area high school seniors aren't mowing lawns, baby-sitting or working at swimming pools this summer. Instead, they are participating in a new program designed to prepare students for possible careers as engineers.

The Access to Engineering Institute, sponsored and funded by the McDonnell Douglas Foundation, is part of the Joint Undergraduate Engineering Program that involves faculty at Washington University and the University of Missouri-St. Louis. The institute made a special appeal to African Americans, other minorities and women as candidates to consider an engineering career.

The eight-week program, which began the week of June 12, is an intensive introduction to engineering and the mathematics and sciences that are important components to the building of an engineering professional. Each morning is devoted to the rigors of calculus or pre-calculus study. Afternoons are set aside for demonstrations, hands-on laboratories and field trips designed to show students the real-life range of engineering. Fridays are for fun. For instance, the first week, they rode the Metrolink and learned about infrastructure and transportation engineering. Each of the Friday field trips ties in engineering concepts.

The final week will feature open discussions of legal, communication and environmental concerns in an engineer's life and conclude with a recognition lunch on Aug. 4. But, before the celebration, the participants will take their final examinations in their mathematics courses, underscoring the serious intent of the institute.

"America needs engineers, but it doesn't always encourage them, and that is one of the key purposes of this program," said William P. Darby, Ph.D., dean of the Joint Undergraduate Engineering Program and vice dean for academic affairs for the School of Engineering and Applied Science. "Traditionally, high school students have only had the vaguest notions of what engineers do and what it takes to become an engineer. This intensive experience makes practicality, hard work and fun to give a big picture of what is involved in engineering."

"I also provides an engaging and thorough way to approach calculus, a challenging and sometimes intimidating staple of engineering. The students and faculty both have had a great time," said Shields. "It also provides an opportunity for students this age to do valuable network-building with their peers as well as local engineering employers, who participate as well," said Shields.

Mindful that the students have forfeited summer job opportunities to participate in the institute, the McDonnell Douglas Foundation has provided students with a $100-per-week stipend to attend. Perhaps the biggest possible payoff, though, is in full-tuition scholarship to the University of Missouri-St. Louis for the first year's study toward a mechanical, civil or electrical engineering degree.

Early's new book looks at Motown's impact on American culture

While whites generally view Motown as a source of great dancing music, blacks say the record company's significance is much greater than that, says Gerald Early, Ph.D., professor of English and director of the African and Afro-American Studies Program, in his new book on Motown's impact on American culture.

"White people basically see black music as some kind of escape.... It's this music of great fervor and great emotion," said Early. "But black people see their music, first of all, as an avenue where they can make money and at least have some degree of freedom about how they want to express themselves."

How blacks view their music is a central focus of Early's book titled "One Nation Under a Groove: Motown and American Culture." The Ecro Press book, arrived in stores last month. From the rise of Diana Ross, to the fall of Marvin Gaye, Early describes how Motown gained acceptance in white America as well as how the Motown sound was marketed to fit into popular culture.

Early addresses such questions as "What cultural forces were present that helped form Motown?" "What does Motown tell us about the black connection to American popular culture and the business world?" and "How did Motown use music to create a sense of community among blacks?"

Within the musical context of black and white cultures, he examines films that highlight black artists, such as "Sparkle," "The Five Heartbeats" and "Lady Sings the Blues," Frank Sinatra's Rat Pack, the influential women at Motown; the development of black radio; the growth of the civil rights movement and its impact on black music; and the Midwest's key role in the development of black popular music in America.
W. Edwin Dodson, M.D., professor of pediatrics and of neurology, recently was elected president of the Epilepsy Foundation of America (EFA). Located in Landover, Md., the EFA serves a network of affiliated epilepsy organizations in 125 cities throughout the United States.

In his two-year term as president, Dodson will guide the organization's policy and programs, increase educational services.

Edwin Dodson

strengthens the EFA affiliates and expand EFA-based mechanisms for funding re-

search. Dodson joined the School of Medicine in 1971 and now is associate dean for admissions and financial aid. He also is a leading expert on drug utilization in chil-
dren with epilepsy. He received a EFA grant in 1975 to study the metabolism of antiepileptic drugs in children. The EFA awarded him another grant in 1983 to investigate the effects of various combina-
tions of antiepileptic medications. His research also has been strongly supported by the National Institutes of Health.

Dodson has served on many of the EFA's committees, and he joined its Pro-

fessional Advisory Board in 1987, as chair of the advisory board from 1991 to 1993, he launched the largest physician education project the organization has undertaken. He joined the EFA's board of directors in 1989.

Growth regulation studies may lead to new diagnostic techniques and treatments

School of Medicine researchers have received a three-year $2.1 million Project Program grant from the National Institute of Child Health and Human Development to study the regulation of human growth.

"The long-term goals of the project are to understand the factors that control nor-

al human growth and to use this informa-
tion to develop new ways to diagnose and treat human growth disorders," said prin-
cipal investigator Peter S. Rotwein, M.D., professor of medicine and of biochemistry and molecular biology.

About 2.5 per-
cent of American children fall below the normal height range for their age.

The grant will fund four related studies. Rotwein will explore the ways in which
cells synthesize the hormone IGF-I. Shanna E. Tollesfors, M.D., associate pro-
fessor of pediatrics, will investigate how cells modify newly made IGF-I to make it biologically active. Michael F. Faust, M.D., Ph.D., assistant professor of pediatrics, and Carl H. Smith, M.D., professor of pathology, will study the effects of IGFs on the growth of placental cells during develop-
ment and determine how IGFs regulate the transport of nutrients to the fetus. Linda J. Pirollo, Ph.D., associate professor of bio-
chemistry and molecular biophysics, will study the action of another growth-promot-
ing substance, epidermal growth factor, by looking at a critical enzyme involved in the cascade of events that occurs after the growth factor binds to the cell surface.

Modest workplace changes can reduce many strain injuries

Employees who suffer from repetitive strain injuries may find relief by modi-
fying their workstations and improving their posture.

Repetitive strain injuries include carpal tunnel syndrome, which occurs in the wrist, and cubital tunnel syndrome, which occurs in the elbow. These injuries are primarily caused by repetitive on-the-job tasks. They occur frequently in engineering work and working at computers but also may be caused by non-occupational factors such as obesity and pregnancy. The most common symp-
toms are tingling, numbness or pain in the wrist or elbow. Cubital syndrome may in-
clude pain in the neck and shoulders.

Scott Minor, Ph.D., an assistant professor in the Program in Physical Therapy, eval-
uates workstations at the School of Medicine to pinpoint problems that may lead to repeti-
tive strain injuries. He said modest changes in the workplace can have a large effect on reducing repetitive strain injuries, which would be a benefit to employees and the University.

"The biggest problem I see is that work stations are not adjustable," Minor said. The easiest way to make a workstation adjustable is to have it with a fully adjustable chair. Seat height, seat tilt and back tilt can be adjusted on one chair to fit an employee's seating requirements.

When evaluating workstations, Minor said he sees a lot of employees with poor posture. Employees working at computers tend to sit with shoulders rolled forward, lower backs rounded and chins poked for-
ward. Especially when they are tired, it is almost impossible to have a fully adjustable chair.

Employees who think they suffer from repetitive strain injuries should contact their supervisors and follow the appropriate University process for medical evaluation, Minor said.

"Supervisors who are interested in hav-
ing their area's workstations evaluated should contact Minor at 236-1432."

Dodson elected president of Epilepsy Foundation of America

James Loomis Jr., M.D., clinical instructor of medicine, left, and Rick Wright, M.D., instructor of orthopaedic surgery, consult on the sidelines during a St. Louis Rams' practice session. Loomis and Wright are faculty members at the School of Medicine, which has been chosen to provide team medical services for the Rams.

Sports medicine

Football Rams choose orthopaedic faculty as team physicians

The Department of Orthopaedic Surgery at the School of Medicine was chosen to provide team medical services for the St. Louis Rams.

The department's sports medicine physicians will work with other specialists at the School of Medicine and at BJC hospitals to provide comprehensive medical care on a daily basis and in emergency situations. Such services include preoperative physicals, pregame and postgame evaluations, and physician presence at all practices, training camps and games. Players and their family members requiring inpatient care will be treated by Washington University faculty members at hospitals within BJC.

"I think this is terrific for the Rams and for Washington University," said Richard H. Gerberman, M.D., head of the Department of Orthopaedic Surgery. "We are honored that the team has entrusted Washington University with their health needs, and we will see to it that they get the highest level of care possible."

Steve Ortmayer, vice president/football operations for the Rams, said, "We feel very fortunate to have the Washington University Department of Orthopaedic Surgery working with us on our medical coverage. Our goal of becoming the premier franchise in the National Football League can only be enhanced by this association."

The core medical team includes:

Robert A. Shively, M.D., assistant professor of orthopaedic surgery, Shively will travel with the team. He has been a fac-
ulty member at the School of Medi-
cine for 16 years. He also cares for the Washington University athletic teams as well as 12 area high school teams.

Rick W. Wright, M.D., instructor of orthopaedic surgery. Wright also will travel with the team. He joined the faculty last year after completing a sports medic-
ice fellowship at the Minneapolis Sports Medicine Center, where he provided medical care for the Minnesota Vikings.

Bernard T. Garfinkel, M.D., clinical professor of medicine. Garfinkel, an internist, has been affiliated with the School of Medicine since he began medical training at the University in 1944. He served as the medical director for the St. Louis Cardinals football team until they moved to Phoenix. Garfinkel will be assisted by his associate, James F. Loomis, Jr., M.D., a clinical instructor of medicine.

Gerberman, also Fred C. Reynolds Professor of Orthopaedic Surgery, Gerberman will oversee medical services for the Rams. He recently relocated to St. Louis from Harvard University, where he treated the hand and wrist injuries of the New England Patriots and the Boston Bruins.

-- Joni Westerhouse
Magnetism continues to draw Indeck

To baby boomers and their parents, it may seem that simple magnetic toys, all the rage in the 1950s and '60s, sadly have gone the way of the bobby-sox, Howdy Doody and the nickel Coke. They should visit the Bryant Hall office of Ronald S. Indeck, Ph.D., associate professor of electrical engineering.

The engineer, like Noah stockpiling his ark, has hoarded a dozen Africa-shaped magnets and an egg, a model Jander created for magnetic anisotropy. He picked up a nano-tape cartridge, smaller than a matchbook. "This little piece stores 1.7 gigabytes of data — that's as much as a matchbook. "Most data today are stored magnetically," he said. "Neither can computers, for that matter. A good way to store that information is magnetically. I'd go so far as to say it's the best way."

To understand this facet of magnetism, it helps to visualize complex systems, education. Today, the father of options at the University of Minnesota, and weighed his future options at the Center (MISC — or "Miscellaneous Center") as Indeck calls it. By 1989, after working on transducers, or recording heads, and trying to come up with a better recording system with a better transition, they realized that the centerpiece of what they were working on was a problem that didn't exist anymore," conceded Indeck. "I guess there are so many other things more electronically exotic on the market that people forget the simple things. But some of the simple things are just so beautiful. Look at this."

He grabbed a glass-enclosed apparatus that contained little spindles that stick up like playing cards, then ran a magnet over the glass. The action causes the spindles to come to attention and then play off each other's magnetism.

"Now, that's a very unusual, interesting property, and I guess the fascination is in the fact that I'm not even touching the magnets and they're showing this force-at-a-distance property. It's almost too simple, and people have lost sight of it as a fascination for kids."

In the scientific, as well as the public, sectors, magnetism still has its pull. Sophisticated machinery such as nuclear magnetic resonance (NMR) and magnetic resonance imaging (MRI) have penetrated into our lives. Magnetism is basic to the study of the planets, which have magnetospheres, or magnetic fields, about them. (Jupiter, for instance, has such a strong magnetic field that it draws comets away from the Earth.) And, on a purely pop-science level, everyone is curious about personal magnetism — what it is that makes "opposites attract." But one is curious about personal magnetism — that it draws comets away from the Earth."

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Ronald S. Indeck and graduate student Albrecht Jander explore magnetism in a device called the egg, a model Jander created for magnetic anisotropy.

"People considered it a dead technology... But if it's so dead, why have we gone up a factor of 10 in density every decade?"

He hooked up a nano-tape cartridge, smaller than a matchbook. "Most data today are stored magnetically. This little pieces stores 1.7 gigabytes of data — that's near the sieves into 10 of the Encyclopedia Britannica, not volumes."

"We humans can't digest information instantaneously," he said. "Neither can computers, for that matter. A good way to store that information is magnetically. I'd go so far as to say it's the best way."

"The Information Superhighway gives us the flexibility and freedom, like telephones did by voice, to connect to just about every node in just about the whole world. Today we can control the 'subscopic Walk,' which is to say, you can control the magnetic noise."

"With engineering, I could take all of the things I'd learned locally for awhile. And the magnetic medium is the park-"
Richard Schilling named head coach for track and cross country

Richard (Rich) Schilling, who has held coaching positions at SC Farmington College in Alliance, Ohio, since 1999, has been named the men's and women's head coach for track and field at Washington University.

Schilling, who has more than 30 years of coaching experience at the collegiate level and a cross country coach at Mount Union from the fall of 1990 through spring 1995. In addition, he served as the Mount Union Raiders' head women's cross country coach and assistant track coach in 1989. During his six-year tenure at the college, Schilling developed six NCAA Division III individual champions and 25 All-America honorees in track, plus three national qualifiers in cross country.

Schilling recently led Mount Union women's team to an eighth-place finish at the NCAA Division III Outdoor Track and Field Championships.

Schilling began his coaching career at Northwest Missouri State University in Maryville, where he served as an assistant coach for men's and women's track and cross country teams.

Schilling was the president of the NCAA Division III Cross Country/Track and Field Coaches Association from 1993-94 and, following a term as vice president from 1991-93, he was selected as the Ohio Athletic Conference (OAC) Indoor Track and Field Coach of the Year in 1994 and 1995, as well as the OAC Cross Country Coach of the Year in 1990.

Schilling received a bachelor's degree in education from Mount Union College in 1983 and a master's degree in physical education and health from North-west Missouri State University in 1989. He is working on a doctorate in higher education administration and sports administration at Kent State University in Ohio.

Calendar

Wednesday, July 26
6:30 a.m. Anesthesiology Grand Rounds

Music

Sunday, July 30
8 p.m. Orchestra concert, Gateway Festival Orchestra, directed by William Schrader. Program: "Choral Pastoral" by Ludwig van Beethoven, "Concerto in G minor for Piano" by Franz Mendelssohn, "Hondoson" from "Rodeo" by Aaron Copland, "Overture to the Last Post March" by John Philip Sousa and "Ouzy the Tabu" by Alexander Serwatsky. Brooks Quadrangle, (Ramp location: Graham Chapel) 935-5581

Monday, July 31
5 p.m. Chamber music concert, Gateway Mosaic. Program includes music for String Ensemble; Graham Chapel. Cost: $5 for general admission; $3 for senior citizens and students. 741-5948

Thursday, Aug. 3
6:00 p.m. Field Hockey Practice, Butler Field. 935-5581

Music

Saturday, July 29
6:15 p.m. Pediatric Grand Rounds. "Prenatal Diagnosis of Fetal Malformation With Special Reference to an Unusual Deformity," by Dr. H. Ball, professor of pediatrics, Clifton Aaid., 4950 Children's Place 454-6905

Friday, Aug. 11

Exhibitions

"The Keenest of Senses: Celebrating the Bernard Becker Book Collection in Ophthalmology" Printed treasures in ophthalmology and a residence from four centuries. Through Dec. 22. Glazer Gallery, The Bernard Becker Medical Library, 660 Field Flad, (Hours: 9 a.m.-9 p.m. weekdays, 1-5 p.m. weekends. 632-4239

Lectures

Wednesday, July 26

Collaboration considered unique — from page 1

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Begun in 1993 with a modest eight students, the Joint Engineering Program combines the expertise, resources and collaboration considered unique — from page 1

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"The program has been a bit hectic, but lots of fun," Groszewski said. "Last week they were at the football stadium, tomorrow they'll visit a landfill. It's very intensive, but I think they are getting a lot from it. We've really gotten a little more engineering degree in the program. All who successfully complete the course are eligible for the scholarship.

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Motown was considered the sound of young America

Early in his career, the rock critic James Buckley wrote: "It was the rock and roll of the 1950s, the music of the young, the music that was rebellious, the music that was black. It was the music of Motown, the music of the black experience in America."

Buckley was writing in the 1980s, but his words could be applied to any era when Motown was at the forefront of popular music. Motown was a record label that operated in Detroit from the 1950s to the 1980s, producing some of the most memorable and influential music of the century. It was a reflection of the African American experience, both in the United States and around the world.

 arrival of Motown

The arrival of Motown in the 1950s marked a significant shift in the music industry. It was a time when African American music was gaining recognition and popularity, and Motown played a crucial role in that process. The label was founded in 1959 by Berry Gordy, who had previously been a songwriter and record producer for other labels.

Gordy had a vision for creating a record label that would reflect the African American experience, and Motown became a symbol of black pride and cultural assertion. The label's music was characterized by its distinctive sound, which combined elements of rhythm and blues, jazz, and gospel.

Motown's success

Motown's success in the music industry was due in large part to its ability to understand and cater to the needs of its target audience. The label's music was often infused with a sense of social consciousness, which resonated with its fans and helped to ensure its longevity.

The label's influence

Motown's influence extended far beyond the music industry. It was a force for social change, helping to break down barriers and foster understanding. The label's success also had economic implications, as it helped to create jobs and generate revenue for its artists and employees.

Motown's legacy

Motown's legacy can still be felt today. The label's music continues to be enjoyed by new generations, and its influence can be seen in the work of contemporary artists. Motown's legacy is a testament to the power of music to bring people together and to create change.
Tyson Research Center reduces operations, continues some activities

Washington University reduced operations at the Tyson Research Center effective July 3, as part of a continuing University-wide program to decrease administrative expense and to help save money by controlling the programs of the schools that make up the University. Funding for a significant share of Tyson's operating costs has come from the School of Medicine, which is moving its programs to the Medical campus during the next year. Because of these changes Tyson will be managed differently.

“Our plans are to continue Tyson as part of the University,” said former Chancellor William H. Danforth in a June 30 letter to Friends of Tyson, a support organization for the center. On July 21, Chancellor Mark S. Wrighton wrote to the St. Louis Post-Dispatch (see below) that further defines the University’s commitment to Tyson.

The Field Science Program at Tyson reaches out to St. Louis-area schools with day-long nature and science experiences for some 1,500 students each year. The Friends of Tyson is a 500-member organization that helps support some Tyson programs and uses the 2,000-acre wildlife habitat for field trips and other programs. Effective July 3, gate hours at Tyson have been 8 a.m. to 5:30 p.m., Monday through Friday for Friends of Tyson and authorized guests. For University-related activities, interested students should contact the Tyson Office at 935-8430.

Wrighton clarifies commitment to Tyson

The following is a letter Chancellor Mark S. Wrighton wrote to the St. Louis Post-Dispatch on July 21.

I write this letter to clarify the policies, plans and operations of Washington University’s Tyson Research Center. As the new chancellor of the University, I have been impressed with the level of concern expressed over the past few weeks about the future of our Tyson Research Center. I have now had an opportunity to briefly visit Tyson, and I better appreciate the strong feelings of concern generated by the announcement of curtailed operations. On behalf of Washington University, I apologize to those in the community who have had increased anxiety due to lack of adequate advance notice.

Tyson Research Center has neither been closed nor scheduled for closure. All activities are permitted to develop the land, or to sell it for development or any other purpose.

The Field Science Program for elementary and secondary students will continue, as will the Friends of Tyson. Thomas A. Harig, associate vice chancellor, will be the University’s principal liaison to Tyson and will have administrative responsibility for the Tyson Research Center.

The special tenants who have sanctuaries and facilities for birds and wolves will remain at the Tyson Research Center. However, it is my understanding that the World Bird Sanctuary has plans to move within a few years.

In addition to input from interested members of the wider community, there have also been expressions of concern regarding the opportunities for research at Tyson by faculty of Washington University.

Recent graduate slain in Maryland home

Andrea Robyn Goff, a 1995 graduate of Washington University, was killed along with her father and two sisters who were murdered at the family’s home in Potomac, Md., on July 20. At 25, Andrea was a recent graduate of the University of Maryland, where she had been a chemistry major. A native of Elkhorn, Neb., Andrea had worked as a public service to promote safety awareness on campus.

As part of the Architecture Discovery Program, high school student Kevin Haieh of Dallas, Texas, discusses the correct way to draw a building with Bob Hansen, visiting assistant professor of architecture. The summer program targets high school students considering study/architecture in college.
Frank K. Flinn, Ph.D., adjunct professor of religious studies, was widely quoted by national media regarding the events at the Branch Davidian compound in Waco, Texas, and the April 19 Oklahoma City bombing. His analysis contains excerpts from the For Expert Comment service. The service, which was written by the professor of religious studies, was widely quoted by national media regarding the events at the Branch Davidian compound in Waco, Texas, and the April 19 Oklahoma City bombing. His analysis contains excerpts from the For Expert Comment service.

The important point about...
The following is a list of positions available at the School of Medicine, developing administrative assistant management. Jouett previously worked as a technical sales specialist, providing support for local area networks: experience in perimeter firewall systems; ability to work effectively as part of a team; possess strong organizational skills and the ability to work with trustees, faculty, staff, alumni, and government and other external constituencies; possess excellent organizational skills that allow attention to detail; ability to type; attention to detail; ability to type 60 wpm. Resume and letter of interest were requested.

**Technical Sales Specialist**

**Administrative Assistant**

Jouett has a bachelor of science degree in biology, chemistry, and a master of science degree in counseling, both from Southern Illinois University.

**Benefits**

Thomas W. Lauman is the new director of employment benefits and human resources management. Prior to joining Washington University, Lauman was director of employment benefits at Wamsco, Inc., where he worked for 23 years. Lauman has a bachelor's degree in business from St. Louis University and is a Certified Employment Benefits Specialist.

**Chemistry department program focuses on personal safety in laboratories**

The course, titled "Principals of Chemistry Laboratory Safety," covers such topics as the use of eye wash stations, methods of evacuation of a laboratory, and working in an anoxic environment. In the case of fire, information about carcinogenic substances, lasers, electrical systems and various flammable hazards are covered. Prior to the Washington University, Lauman was director of employment benefits at Wamsco, Inc., where he worked for 23 years. Lauman has a bachelor's degree in business from St. Louis University and is a Certified Employment Benefits Specialist.

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