One of the most innovative programs taking place on the Truman campus is the Summer Undergraduate Research Experience (SURE) that is offered through The Next STEP Program. The overarching goal of the Next STEP Program, which is currently funded by a National Science Foundation grant, is to increase the number of students who complete a baccalaureate degree in a science, technology, engineering, or mathematics discipline. The 10-week Summer Undergraduate Research Experience engages undergraduate students in a community of collaborative research projects that foster interaction between faculty mentors and students. The emphasis is placed on building a research community that allows students to see a side of science and math and computer science beyond what is learned in the classroom.

"The U.S. has been losing its economic edge because interest in science and math have been declining, so we provide these kind of experiences for our undergrads as a way of expanding the talent in the sciences and math and computer science disciplines," says Jason Miller, Associate Professor of Mathematics and Director of Truman's STEP Program.

Jennifer Thompson, the Administrative Coordinator of Truman's Science and Mathematics Talent Expansion Program, explains how they want to draw in students who, traditionally, haven't been exposed to the sciences or math and computer science. By getting students engaged in research early on, they hope the students will have a better experience and be more likely to stay as a science major or a math and computer science major and graduate in these fields. The research opportunities help the students see first-hand how what they have learned about the sciences and math and computer science from textbooks fits together. "It's one thing to learn it from a book, it's another thing to actually do it yourself and go, 'oh, so that's why I'm taking that statistics course.'"

Heather Young, who participated in the summer 2005 STEP program, found that she came away from the experience with more confidence. "I don't really perform well in the classroom, and the opportunity to conduct research and to apply my knowledge showed me, and hopefully others, that I can be competitive with other people in my field," says Young, who enjoyed being part of a research community. "Seeing research from other disciplines gave me a broader knowledge of science and exposed me to things that I would not have seen if I had just done research during the school year." As a result of her participation in the research program, Young has decided to consider graduate school after leaving Truman.
Likewise, Meredith Mertz found that the summer research experience gave her the confidence to pursue further education and research opportunities. "The most important thing I learned from the program was that there are a lot of great opportunities for students, and many of us are capable of pursuing them," says Mertz. "The program formed a community of faculty and students, and we could come together and help each other through the tough days when things didn't go so well in the lab and celebrate with each other when we had great research days." Mertz was able to attend two professional conferences through the program and discovered a number of different opportunities that are available to her in the field of biology.

The program further expanded students' connections between their research and the impact it could have on their futures by giving them a glimpse of actual work environments and job opportunities in the fields of science and math and computer science. "Over the summer, we rounded everybody up and took them to St. Louis where we visited employers," says Miller. "We had the students go on tours and talk to alumni to figure out what it's like to actually work at these places."

In addition, the program covered ethics involved in research and other useful topics. "We provide some of the nuts and bolts of what they will need to know, such as info on software programs they will need in order to conduct research or to create a poster to present their research," says Thompson.

In the spirit of reaching out to more students, Truman has partnered with three community colleges — Metropolitan Community Colleges, Moberly Area Community College and St. Charles Community College — as yet another way of using the Next STEP Program to attract more students. And their strategy is working. "This summer we had a student from a community college who was thinking about transferring to Truman but wasn't sure," says Thompson. "Then she came here to do research through the SURE program and found that she really liked it — it gave her a leg up on the transition."

By following an approach that allows its participants to see the possibilities of a future in science and math or computer science early in their college careers, the SURE program is increasing the number of students who continue in these much-needed areas. Heather Young's description of her experience sums up the program's success, "Through this program and other research projects and classes, I have a better idea of what I want to do with my life past Truman."
The Scholastic Enhancement Experience Program (SEE) at Truman provides an opportunity for selected underrepresented students who have the potential to succeed with an academically rigorous summer experience to better prepare them for the educational, social, and personal demands of college. The program was established in 1991 at Truman by Emmanuel Nnadozie, Associate Professor of Economics; Dwyane Smith ('84), former Associate Dean of Multicultural Affairs; and Garry Gordon, Vice President for Academic Affairs.

Bertha Thomas, Assistant Dean of Multicultural Affairs, describes the unique program as a summer bridge program that Truman offers to underrepresented students who have applied for admission to the University who do not fit the classic profile, but who have proven academic gifts, distinct leadership abilities, talents, and achievements. The program provides an opportunity for these students to gain admission to Truman by participating and excelling in a structured academically rigorous five-week-long residential summer program.

"SEE offers a demanding but nurturing environment in which students can sharpen their academic skills, develop supportive and satisfying social interactions and become comfortable with the facilities at Truman," says Thomas. "The students are expected to attend and take part in the classes and workshops to the best of their abilities, and all students who successfully complete the program will be accepted for admission to Truman in the fall directly following their participation in the SEE Program."

On average, Thomas says the program serves between 10-20 students each year, and this past summer, 14 scholars participated in the program. A three-credit hour course in Theater Appreciation, taught by Becky Becker, Associate Professor of Theatre, included a field trip to experience theatre. "The SEE scholars raved about their trip to Iowa City to view a production of Shakespeare's The Tempest," says Thomas. The 2006 SEE program also included skills enhancement workshops in Composition, College Algebra, and Academic Planning. According to Thomas, one of the most popular workshops was the Brown Bag Lunch Workshop Series which covered topics including how to uncover college financial aid opportunities, student research opportunities, and the benefits of having a faculty mentor.

In addition, Thomas says the participants receive peer mentoring and academic advising from four junior or senior SEE counselors who live in the same residence hall as the students. The SEE counselors supervise study halls and plan nightly and weekend social events to help the participants develop positive relationships and build a sense of community.

"Being a Scholastic Enhancement Experience Scholar helped me to better adapt to the Truman campus and community," says Chanee Anderson, a Truman student who participated in the SEE program in 2004. "Due to the lessons of time management, conflict resolution, leadership skills, and living with people whose personal backgrounds were different than mine, and the academic experiences, I was able to make a smooth transition from high school to college; I was also greatly influenced by the high academic standards that the program promoted and implemented." Anderson says that thanks to the many lessons she learned and experienced during the SEE program, she was able to maintain a 3.5 grade point average her first year as a full-time student at Truman.
Many SEE scholars pursue advanced degrees after graduating from Truman. Akela Cooper, a 2003 Truman graduate who participated in the 2000 SEE program, went on to graduate from the Screenwriting for Cinema-Television Program at University of Southern California and is currently a research assistant for Jericho, a TV drama produced by CBS Paramount Network Television that premiered this fall.

Another former SEE scholar, Jas Sullivan (’97), who is now an Assistant Professor of Political Science at Louisiana State University, says that the SEE program was his first exposure to the important aspects of college life. "I gained valuable information on how to succeed both inside and outside the classroom," says Sullivan. "I learned to effectively communicate with professors and students, resolve conflicts with roommates, and manage my time." For him, the best part of the program was having the opportunity to meet caring individuals who taught him how to be a better student and a better person. Now, in his role as a professor, Sullivan has the opportunity to help other students have a successful college career.

"I gained valuable information on how to succeed both inside and outside the classroom..."

Opening the Door to New Possibilities

Named after astronaut Ronald E. McNair, who died in the Challenger disaster in 1986, the McNair Program is designed to increase the number of low-income, first-generation and underrepresented minority undergraduates who pursue doctoral degrees and go on to careers in research and teaching at the University level. Funded by the U.S. Department of Education, the national program aims to prepare academically talented undergraduates from disadvantaged backgrounds with effective preparation to succeed in graduate study. Truman received its first Ronald E. McNair Post-Baccalaureate Achievement grant from the Department of Education in 1992, and since then has provided services to 244 students, 29 of which are currently enrolled.

The McNair Program strives to meet the social, academic, and informational needs associated with earning a
doctoral degree for participants who meet the program's criteria. "We assist students by facilitating mentoring relationships with faculty, providing paid research internships, and providing academic and admission counseling for students to help them gain admission to doctoral programs and earn a PhD," says Sarah Hass, Program Director of the McNair Program at Truman State University.

The participants in the McNair Program are matched with faculty mentors from Truman, who assist the students in achieving their individual post-baccalaureate educational goals. The students then participate in pre-research internships during their sophomore year and summer research internships following their junior year. During their senior year, the McNair scholars focus on graduate school placement.

Chris Peterson, a Truman student from St. Louis, Mo., says that his participation in the McNair research program this past summer made him more serious about school by giving him a set path on which he could focus. "It gave me a good idea of the kind of work I need to do in order to get into graduate school, as well as the work ethic I will need to have once I get there." Working closely with faculty mentor, Tom Zoumaras, Professor of History, Peterson explored the relationship between the International Atomic Energy Agency and the United States during the Cold War period. Through his experience in the McNair Program, Peterson says he learned that although research is hard work and can sometimes be overwhelming, the end result is immensely satisfying. He plans to obtain a PhD and perhaps one day become a professor.

Kovel Walker, a May 2006 Truman graduate, also found that the McNair Program helped prepare him for future endeavors. "I learned how to conduct and present a research proposal and project, how to present in front of an audience of your peers and professionals, and how to write a professional article," says Walker, who worked with faculty mentor Cynthia Cooper, Professor of Biology, on an external research project with the Epilepsy Center in Wichita, Kan. "The purpose of my project was to see the relative effects antiepileptic drugs (AEDS) had on bone mineral density," says Walker, who is now pursuing graduate study at the University of Kentucky.

By providing a strong educational foundation for students, the McNair Program is opening doors that lead to success when the students advance to their graduate careers.