Ohio State forum explores NASA's past, present, and future

NASA's space missions have been a catalyst for the creation of new products and services; new businesses and industries; and high-quality, sustainable jobs while also serving as an inspiration for young people to pursue science, technology, engineering, and mathematics (STEM) education and career paths. With the space shuttle program coming to a close after 30 years, NASA is preparing to usher in the next era of exploration. On February 20-21, the NASA Future Forum was held on campus to discuss the role NASA will play in further advancing innovation, technology, science, engineering, and education. Senator John Glenn joined NASA space agency officials, including Administrator Charles Bolden and Deputy Administrator Lori Garver, former astronauts, technologists, scientists, engineers, and Ohio State students in panel discussions on the importance of education to our nation’s future in space. The benefit of commercialized space technology to our economy and lives on Earth, and the shifting roles for the public, commercial, and international communities in space were also discussed. The forum coincided with the 50th anniversary of Glenn’s historic Friendship 7 space flight – when Glenn became the first American to orbit the Earth. An in-flight call during the Forum provided an opportunity for the International Space Station (ISS) crew to congratulate Glenn on the anniversary of his historic flight and for the Senator, a big proponent of the ISS, to hear first-hand about life onboard the orbiting outpost.

Green Oakley Cluster to double OSC computing power

The Ohio Supercomputer Center (OSC) has acquired a new energy-efficient, GPU-accelerated supercomputer system. The $4.1 million supercomputer – the Oakley Cluster (aptly named to honor legendary Ohio sharpshooter and social advocate Annie Oakley) – will provide one and a half times the performance of the current Glenn Cluster at just 60 percent of Glenn’s power consumption and will expand OSC storage to nearly two petabytes. Major users of OSC’s resources have focused on research in the areas of the biosciences, advanced materials, energy, and the environment. This centralized support increases opportunities for researchers statewide to innovate and successfully compete for grants and national supercomputing resources. According to Ashok Krishnamurthy, interim co-director of the center and senior director for research, “A recent survey of Ohio universities indicated that researchers who leverage OSC resources annually garner more than $140 million in research funding – a huge return on investment for the state.” The deployment of the Oakley Cluster coincides with the 25th anniversary of the establishment of OSC in 1987 as a state-funded high performance computing center tasked with providing Ohio’s universities, industries, and other clients with computation, software, storage, and support services. Located at Ohio State, OSC is a member of the Ohio Technology Consortium (OH-TECH), the technology arm of the Ohio Board of Regents.

NSF study examines interaction of culture on color perception

Delwin Lindsey, professor of psychology at Ohio State Mansfield, received a $450,000 grant from the National Science Foundation to study color and language variations in two very different cultures – the Somali and U.S. populations. The accepted model of color vision asserts that the visual system of people with normal color vision is organized around six fundamental sensations in a color-opponent fashion: red vs. green, blue vs. yellow, and black vs. white. However, most of the world’s languages, including the Somali language, do not have a specific term for the color “blue.” Some cultures use a word meaning black, others use the term gray, and still others use a single word that means green-or-blue. By carrying out a series of laboratory studies on Somali-speaking and English-speaking participants, the researchers hope to better understand the interaction of language and culture on the perception of color. In addition, the researchers are working to increase understanding of the foundational processes that mediate innate and cultural influences on the development of the human mind. Angela Brown, professor of optometry, is the study’s co-investigator.
Communication professor receives NSF CAREER Award

R. Kelly Garrett, assistant professor in the School of Communication, has been awarded a five-year, $500,000 National Science Foundation (NSF) Early Career Development Award (CAREER) to support research into the ways in which social networks and recommendation systems might influence U.S. political misperceptions. Scholars have observed that online news and political talk have the potential to promote belief in false or misleading factual claims, frequently attributing this to distinctive characteristics of the Internet. Garrett’s study will pair multi-wave surveys of representative samples of Americans with a series of controlled experiments designed to evaluate the specific mechanisms theorized. These experiments will examine a variety of factors, including the influence of metacognitive experiences, such as processing fluency, on the acceptance of false information and factual corrections; the influence of emotional responses to political claims on individuals’ assessments; and biased assimilation as it informs credibility effects. Garrett will also explore the relative importance of institutional trust and individual judgment on participants’ beliefs. The CAREER Award is NSF’s most prestigious award in support of junior faculty. This is Ohio State’s 10th NSF CAREER Award in the last 12 months.

Sheridan receives $1.9 million to study effects of stress on health

Chronic stress is associated with an increased prevalence of mental health complications, including anxiety and depression. While it is well-known that these stress-associated conditions significantly affect health and influence quality of life, the mechanisms involved are not completely understood. A five-year, $1.9 million grant from the National Institutes of Health will allow Ohio State researchers to continue their studies on the interactions among the nervous, endocrine, and immune systems to gain a better understanding of the pathways by which the response to chronic stress affects health. John Sheridan, professor and associate dean for research in the College of Dentistry, and associate director of the Institute for Behavioral Medicine Research at The Ohio State University Wexner Medical Center, is the study's principal investigator. This multidisciplinary effort includes researchers from oral biology; molecular virology, immunology, and medical genetics; the Center for Biostatistics; and the Institute for Behavioral Medicine Research.

Ohio State mathematician named 2012 Sloan Fellow

Matthew Kahle, assistant professor of mathematics, received a two-year $50,000 Alfred Sloan Fellowship. Kahle joins a select group of the country’s most promising young scientists, whose selection is based on outstanding work-to-date and promise for significant future contributions. Kahle’s research is highly interdisciplinary. He studies the interactions between different fields of math – topology and geometry with probability, statistical mechanics, and combinatorics. Kahle is considered a leader in the new field of random topology, which combines probability and topology to study the probability that certain shapes may arise in different contexts. Kahle was nominated for the Fellowship by Luis Casian, chair of the Department of Mathematics, well before he arrived at the university in August 2011.

10X hits $1 million mark in less than a year

The Fisher College of Business’ Center for Entrepreneurship’s 10-xelerator (10x) program will receive $200,000 through Ohio’s New Entrepreneur (ONE) Fund to continue the program that it piloted in 2011. The ONE fund is an Ohio Third Frontier entrepreneurial competition that focuses on the professional development of young technology entrepreneurs as they learn what it takes to start a business in Ohio. 10x is a new venture accelerator launched by the Center for Entrepreneurship that focuses on technology startups. The pilot program was designed to attract and retain the best and brightest talent in Ohio to support the state’s future economic development. It is an intensive 12-week program that provides funding, mentorship, and professional development to 10 talented entrepreneurial teams. Each team receives $20,000, individual team mentors, technology and business experts, office space, on-going coaching, and workshops in partnership with the Center for Entrepreneurship. The program has received national attention, spurring interest from various other accelerators looking to launch similar entrepreneurship boot camps. To date, total state, donor, and matching fund support is $1.1 million. Since participating in the 2011 10x summer session, teams have received nearly $3 million in follow-on investment.