Noted Ohio State researcher named to Institute of Medicine

Carlo M. Croce, an Ohio State geneticist whose research and discoveries are respected around the world, has been named to the Institute of Medicine (IOM) of the National Academy of Sciences, one of the highest honors awarded to scientists in the field of health and medicine. Croce, chair of the department of molecular virology, immunology, and medical genetics, and director of The Ohio State University Medical Center's Institute of Genetics, is one of 65 new members elected to the IOM this year. Croce's renowned career in research has uncovered early events involved in the pathogenesis of leukemia, lymphoma, lung, nasopharyngeal, head and neck, esophageal, gastrointestinal, and breast cancers. More recently, he discovered the novel role of microRNAs in the genesis of various cancers. Established in 1970 as the health branch of the National Academy of Sciences, the IOM is recognized as a national resource for independent, scientifically-informed analysis and recommendations on health issues. New members are elected by active current members through a highly-selective process that recognizes individuals who have made major contributions to the advancement of the medical sciences, health care, and public health. Along with Croce, six other Ohio State researchers are members of the Institute of Medicine.

Solar Decathlon team earns a fifth place finish

Ohio State’s solar decathlon team, Team enCORE, finished fifth in the U.S. Department of Energy (DOE) 2011 Solar Decathlon competition held in Washington, DC. Team enCORE was one of 19 teams invited to compete in this international competition. The Solar Decathlon challenges college teams to design, build, and operate solar-powered houses that blend affordability, consumer appeal, and design excellence with optimal energy production and maximum efficiency. More than 50 students from 13 different majors worked for nearly two years to complete the Ohio State house. Team enCORE earned top honors in two of the 10 competitions: efficiently maintaining a comfortable temperature and efficiently producing hot water. The family-friendly, more than 800 square foot enCORE home included two bedrooms, a den, a kitchen with eating space, a workspace area, a bathroom, and a covered deck. Some of the home’s unique energy features include high-efficiency, triple-pane, gas-filled windows; a sloped roof to collect rainwater; a bioremediation system to filter and recycle greywater; a solar hot air system that uses phase-change technology to reduce heating and cooling loads by up to 20%; and thin-film photovoltaic solar panels that are effective even under overcast skies. The enCORE house will return to campus to serve as a display and an educational tool.

Earth scientist receives Presidential Early Career Award

Ian Howat is the recipient of the 2011 Presidential Early Career Award for Scientists and Engineers (PECASE) – the highest award that a young researcher can receive in the U.S. Howat, an assistant professor in the School of Earth Sciences, studies the state of the Earth’s large ice sheets using data collected from space satellites as a primary observational tool. The PECASE was established by President Clinton in 1996. Nine federal agencies join together annually to nominate researchers whose early accomplishments show the greatest promise for strengthening America’s leadership in science and technology. Howat was nominated by the National Atmospheric and Space Administration. He will receive the award at a ceremony at the White House. This is the second year in a row that a researcher from earth sciences has received the award. Steven Lower received the PECASE in 2010.

State, Regional, and Urban Development Center of Excellence recognized

The Ohio Board of Regents designated the university’s “State, Regional, and Urban Development Center” a Center of Excellence in the category Cultural and Societal Transformation. Ohio's Centers of Excellence position the University System
of Ohio to be a magnet for talent and a leader in innovation and entrepreneurial activity. This new center will address the critical needs of Ohio’s cities and regions in planning and expanding the infrastructures that support them, establish the policies and alliances to create a robust living and working environment, and meet the demands of business and industry to facilitate growth and expansion. Educating Ohio’s students in understanding the needs and interconnectedness of government, education, industry, and organizations as participants in urban and regional development will be an additional focus of the center. The center brings together eight research centers on campus whose missions are at the core of this initiative. Faculty members associated with the center have a strong history of engagement with government and private sector partners and are distributed across the arts and sciences, professional, and health sciences colleges. Daniel Sui, professor and chair of geography, will lead this interdisciplinary effort. Ohio State is home to five additional Centers of Excellence.

Center for Applied Plant Sciences launched

The Center for Applied Plant Sciences (CAPS), a new partnership between the College of Arts and Sciences and the College of Food, Agricultural, and Environmental Sciences, will facilitate the translation, or connection, between basic research and applications in areas such as photosynthesis and carbon fixation, biomass and bioproducts, crop production enhancement, and plant-microbe interactions. CAPS will support the work of interdisciplinary scientific teams with members from across the university. The teams will have access to research facilities, PhD students and graduate fellowships through the university’s new Interdisciplinary Graduate Program in Translational Plant Sciences, postdoctoral fellowships, and research seed grants. To bridge the gap between basic and applied research, CAPS will work with the Ohio Agricultural Research and Development Center (OARDC), the Ohio BioProducts Innovation Center, and the Office for Energy and Environment. Erich Grotewold, professor of molecular genetics and horticulture and crop science, will serve as center director.

Ohio State receives $50,000 to expand community pharmacy residency

The National Association of Chain Drug Stores (NACDS) Foundation selected Ohio State as one of 12 academic institutions to receive funding for the Community Pharmacy Residency Expansion Project (Community PREP). The $1.5 million educational grant program is designed to expand community pharmacy residencies for recent pharmacy school graduates. Established in 2010, Community PREP seeks to create 30 new, fully-accredited post-graduate community pharmacy residency opportunities through grants to non-profit schools and colleges of pharmacy. The grants are designed to foster the creation or expansion of a patient-focused residency program, where a faculty member will oversee the selected pharmacy resident’s learning experience at a pharmacy practice site.

Ohio State electric motorcycle sets speed record

The Ohio State Buckeye Electric Motorcycle Race Team set an East Coast Timing Association (ECTA) record for electric motorcycles with a certified speed of 112.349 mph. The newly-formed team of undergraduate and graduate students used a real-world engineering process to design, build, modify, and test an all-electric motorcycle to compete in the ECTA speed trials. “The ECTA record is an outstanding result, especially considering that the electric motorcycle race team has barely one year of life,” said Marcello Canova, faculty advisor and assistant professor of mechanical and aerospace engineering. For the upcoming season, the team plans to improve battery management function and maximize torque. The East Coast Timing Association, located in Maxton, North Carolina, was formed by two Bonneville racers to provide its members with a place to run speed trials in the eastern half of the U.S. The organization will be moving to Wilmington, Ohio, for the 2012 season.

Biomedical research gets head into cloud computing

New developments in biomedical informatics are changing the way data and services are exchanged across multidisciplinary fields. Cloud computing is making it easier to access a shared pool of resources (e.g., applications, servers, storage, networks). The “cloud” acts like a virtual supercomputer, pulling together a cluster of computers to work together to perform certain tasks. The exchange of data works well when data are in common, universally-recognized formats, but research data are often written in multiple languages and stored in formats that are not compatible. Using the cloud model as inspiration, biomedical informatics scientists at Ohio State created the Translational Research Informatics and Data management grid (TRIAD) to help researchers around the world access and analyze biomedical data at an unprecedented pace. Before TRIAD, a researcher might dedicate more than 100 hours connecting the dots between tissue samples, the medical histories, and analysis of the group as a whole. TRIAD acts like the ultimate interpreter between different languages. Researchers are able to spend their time figuring out how the information can improve treatments – rather than spending time finding and translating various data sets. TRIAD began with a grant from the National Institutes of Health (NIH) to build a new system to meet the growing and unique needs of translational researchers. Philip Payne, associate professor and chair of the Department of Biomedical Informatics, and Rebecca Jackson, professor of internal medicine, associate dean for clinical research, and principal investigator of the Clinical and Translational Science Award (CTSA), are leading the TRIAD team. TRIAD has been adopted by almost 20 sites, including several other CTSA and NIH-funded programs.