Medical school again rated among nation’s finest for research

In its annual review of graduate programs, U.S. News & World Report ranked the UC Irvine School of Medicine 42nd among American medical schools for research, a jump of two spots from last year. It particularly excelled in research funding; an average of $193,500 per faculty member put it among the top 15 medical schools nationwide in that category. Highlighting this achievement are two multi-million dollar grants. Dr. Tallie Z. Baram received a $10 million Silvio O. Conte Center award from the National Institutes of Mental Health to establish a multidisciplinary center on campus to study how maternal signals and care can influence an infant’s vulnerability to adolescent cognitive and emotional problems. And UC Irvine’s trailblazing 90+ Study, one of the nation’s largest research programs on dementia and other health factors in the fastest-growing age demographic, will continue for at least another five years with a $9.5 million renewal grant from the National Institute of Aging. Leading that effort is Dr. Claudia Kawas (pictured).

More: www.90study.org

Neurobiologists find method to reprogram neurons to restore lost vision

By discovering the role of key neurons that mediate an important part of vision development, UC Irvine neurobiologists have revealed a new approach to correcting visual disorders in children who suffer from early cataracts or amblyopia, also known as lazy eye. Such youngsters can have permanent defects in vision, even after surgery to remove cataracts or correct lazy eye. These flaws are often a result of improper brain development due to visual deprivation during childhood. In contrast, when cataracts in adults are surgically corrected, normal vision is usually restored. Xiangmin Xu (pictured), assistant professor of anatomy & neurobiology at UC Irvine, found that this phenomenon is caused by a specific class of inhibitory neurons that control the time window, or “critical period,” in early vision development, generally before age 7. The results of their study appeared online Aug. 25 in Nature.

More: www.anatomy.uci.edu

Alan Barbour’s breath analysis finding can determine infection severity

Breath analysis may prove to be an accurate, noninvasive way to quickly determine the severity of bacterial and other infections, according a study led by Dr. Alan Barbour, professor of microbiology & molecular genetics and medicine. Employing a chemical analysis method developed for air pollution testing, UC Irvine microbiologists and chemists were able to correlate inflammation levels in laboratory mice to the amount of naturally produced carbon monoxide and other gases in breath samples. The findings point to human applications of this technology in emergency rooms and intensive care units, potentially augmenting or replacing blood tests.

“Breath analysis has been showing promise as a diagnostic tool in a number of chronic diseases,” said Barbour (pictured). “This study provides the first evidence ... that it can be used for rapid clinical assessment of infections, which can lead to prompt institution of effective treatments.”

The study appeared online in the open-access journal PLOS ONE.

More: www.microbiology.uci.edu