Investigators in the Department of Pharmacology Awarded 2 NIH Grants to Discover Novel Drug Therapies.

Acute organophosphate poisoning is a military and civilian threat that causes a complex cascade of lethal central and peripheral nervous system toxicities. Identifying new and improved therapeutics to treat and prevent central nervous system (CNS) injuries resulting from exposure to chemical threats is imperative since there are few effective options. The National Institute Of Neurological Disorders And Stroke (NINDS) Countermeasures Against Chemical Threats (CounterACT) program has awarded investigators in the Department of Pharmacology, in collaboration with investigators at the U.S. Army Medical Research Institute of Chemical Defense, a 3 year grant for $1.18 MM. This grant will allow Professor Kelvin W. Gee and his UCI colleagues, Drs. Derk Hogenkamp and Timothy Johnstone, to identify small molecule compounds to block status epilepticus (SE) seizures and CNS damage caused by chemical warfare agent exposure.

A second 3 year award for $1.85 MM from the National Institute On Drug Abuse (NIDA), in collaboration with coinvestigators at the College of Medicine, University of Arizona Health Sciences Center, is focused on developing a treatment for chronic pain. This type of pain is a widespread and expensive medical problem that according to the Institute of Medicine of the National Academies, afflicts greater than 100 million Americans. The drug discovery effort is focused on the $\alpha_9\alpha_{10}$ neuronal nicotinic-acetylcholine receptor (nAChR) which is a putative non-opioid target for the treatment of neuropathic pain states. Drugs targeted at the $\alpha_9\alpha_{10}$ nAChR, unlike the opioids such as fentanyl and morphine, have the potential to relieve pain without addiction liability and other CNS side effects.