Ream Al-Hasani, PhD is an Assistant Professor at the Center for Clinical Pharmacology with appointments in the Department of Pharmaceutical and Administrative Sciences at the St. Louis College of Pharmacy and the Department of Anesthesiology at Washington University in St. Louis.

The Al-Hasani Lab strives to elucidate the neurocircuitry underlying addiction, stress, chronic pain and analgesia, specifically focusing on the role of the opioid peptide system to identify new targets for novel pharmacotherapies. The US is also amidst an opioid epidemic, with Missouri being one of the most afflicted States. What is common and striking in both is the high incidence of relapse, which prevents abstinence.

The Al-Hasani Lab believes that to prevent relapse, we must better understand the severity of the withdrawal syndrome that accompanies opioid and nicotine cessation. This often precludes success in quitting, but little is understood about the regulation of this negative affective state. We use *in vivo* optogenetic behavioral models to study the role of the dynorphin/kappa opioid receptor system and collaborate with chemists to develop new methods to detect peptide release in freely moving animals. Dr. Al-Hasani is also actively studying the role of the dynorphin/kappa opioid receptor system in chronic pain states and looking at the intersect with opioid addiction and abuse.

In sum, our research uses diverse but complementary multidisciplinary neuroscience approaches to advance the understanding of the causes, prevention and treatment of stress, anxiety, pain and drug abuse disorders.