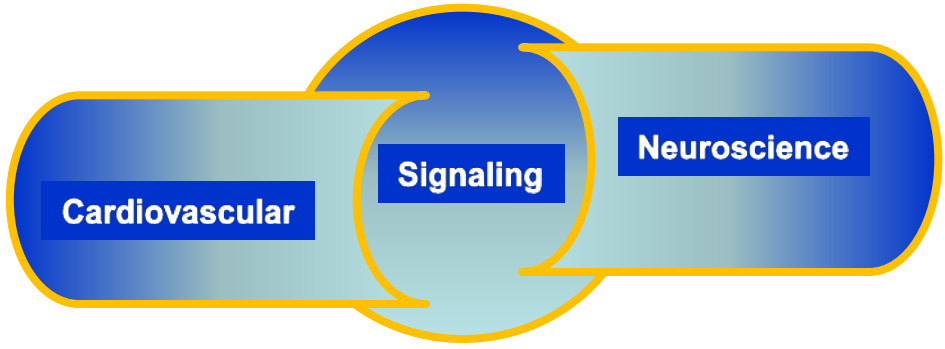

The Department of Pharmacology

Proudly Presents the Seminar Series:

Frontiers in Pharmacology

"Translational opportunities in substance abuse and its co-morbidities through biased agonism at GPCRs"

The focus in my laboratory is elucidating how altering the signaling "bias" of a G protein coupled receptor (GPCR) ligand for its various effectors contributes to drug responsiveness and side effect profile. Todays seminar will focus on the role of signaling bias in the effect/side effect profiles of opioid drugs. Opioid drugs, such as morphine and its derivatives remain the gold standard for the treatment of severe pain, both acute/post-surgical and chronic. However, the utility of opioid drugs for the treatment of chronic pain is compromised by the development of analgesic tolerance which, in turn, leads to dose-escalation and increased likelihood of dangerous side effects, including dependence. Morphine and its derivatives are all "biased" agonists at the mu opioid receptor (MOR), that signal to G protein but poorly engage arrestin-mediated pathways. In contrast the endogenous ligands at the MOR, the endorphins and enkephalins, are "balanced" agonists, that engage both pathways. Here we will provide evidence that opioid drugs with a balanced agonism will retain analgesic efficacy, but will have a reduced liability to cause tolerance, dependence and addiction.

Jennifer L. Whistler, Ph.D

Endowed Chair in Genetics of Addiction in Neurology

Department of Neurology,

University of California, San Francisco

Tuesday, March 15, 2016

4:00 pm

GBSF Auditorium

(Rm. # 1005)

Light refreshments will be served.

Host : Elva Diaz

edaiz@ucdavis.edu