



## **PAUL F. KRAMER**

Oregon Health & Science University, Neuroscience Graduate Program

### **Degrees:**

BA in Psychology and Neuroscience, Grinnell College.

### **Scholar Award Donor:**

Judith Hawes Holmes

### **About the Scholar:**

Paul is currently researching a g-protein coupled receptor, a class of molecules that make up over a third of all pharmaceutical drug targets, called the metabotropic glutamate receptor. This receptor plays an important role in the development of substance abuse disorders, but there still remain many gaps in our understanding of the basic function of these receptors in neurons. Paul uses a combination of electrophysiology, pharmacology and molecular biology to probe the function of these receptors in a physiological preparation; he also hopes to investigate how drugs of abuse like cocaine might alter the function of these receptors.

### **Benefits to Society:**

Basic research often has no tangible goal in mind, no predicted outcome that will benefit society, yet some of the most important findings in science have been unexpected results obtained about careful research. Paul's research will ultimately expand the current understanding of a critical membrane receptor in normal and disease states, leading to better future research which may eventually lead to the discovery of novel drug targets to help treat substance abuse disorders.

### **Awards and Honors:**

Phi Beta Kappa

Psi Chi

Graduated with Honors from Grinnell College

Senior Psychology Excellence Prize

### **Publications and Posters:**

**Kramer, P.F.**, Christensen, C.H., Hazelwood, L.A., Dobi, A., Bock, R., Sibely, D.R., Mateo, Y., Alvarez, V.A. (2011). Dopamine D2 receptor over-expression alters behavior and physiology in Drd2-EGFP mice. *Journal of Neuroscience*, 31(1), 126 - 132.

Selected for Faculty of 1000 recommended list (<http://f1000.com/8639957>)

Bock, R., Shin, J.H., Kaplan, A.R., Dobi, A., Markey, E., Kramer, P.F., Gremel, C.M., Christensen, C.H., Adrover, M.F. & Alvarez, V.A. (2013). Strengthening the accumbal indirect pathway promotes resilience to compulsive cocaine use. *Nature Neuroscience* 1–9. doi:10.1038/nn.3369.