**Project Title:** Novel Glycine Transport Inhibitors for the Treatment of Pain  
**Code:** SoMS4

**Host School/Institute:** Discipline of Pharmacology

**Address:** Transporter Biology Group, Blackburn Building, The University of Sydney, Camperdown NSW 2006


**Personal Supervisor:** Professor Robert Vandenberg  
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**Co-Supervisor:** Associate Professor Renae Ryan

**Project Type:** Laboratory based

**Project Category:** Pharmacology; Molecular biology; Neuroscience

**Skills/Attributes of a successful student**
Students will need an interest and experience in Pharmacology or Biochemistry or Physiology

**Project Keywords:** Glycine Transporter; Lipid inhibitors; electrophysiology; pain

**Project Description:**

Glycine transport by GlyT2 can be allosterically inhibited by a range of compounds, some of which show promise as analgesics for the treatment of chronic pain. In this project you will form part of a multidisciplinary group that is working towards the development of novel drugs for the treatment of pain. N-arachidonyl-glycine is an endogenous lipid inhibitor of GlyT2, but there is little understanding of how it interacts with the transporter. In this project you will investigate how this and related compounds interact with GlyT2 and then use this information to develop potent and selective GlyT2 inhibitors (see figure). A number of research directions and techniques are possible with this project. Students are encouraged to discuss the project with Professor Vandenberg so that the style of the project can be tailored to the student’s interests. Work on this project is supported by a Project Grant from the NHMRC.