

Dear Faculty, IGERT Fellows, IGERT Associates and Students,

You are cordially invited to attend a Seminar presented by **Reed Harrison**.  
Please plan to attend.

# Reed Harrison

IGERT Fellow

Date: Friday, February 13, 2015

Location: WCH 216

Time: 11:00am

## Modulating Immune Response for Efficient Induction of Pluripotency

**Abstract:**

Induced pluripotent stem cells (iPSC) have the potential to revolutionize personalized medicine and pharmaceutical development; however, there are distinct hurdles that must be overcome. Typically, pluripotency is induced through retroviral vectors. If these genes are reactivated after differentiation of iPSC, dysregulation of normal tissues can occur resulting in diseases such as cancer. More recently, scientists have been able to induce pluripotency using purified proteins; however, the conversion efficiency for these methods is extremely low. In a paper from *Cell* in 2012, Lee *et al* propose a method to improve the reprogramming efficiency by modulating the behavior of the toll-like receptor 3 (TLR3, CD283), a pattern recognition receptor involved in innate immunity. In this presentation, I will review the innate immune system (focusing on TLR3 and relevant interactions) and discuss the findings of the paper, "Activation of Innate Immunity Is Required for Efficient Nuclear Reprogramming" (*Cell* 2012).

