

## Neuroscience Seminar Series

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**Friday, September 9<sup>th</sup>, 2016 at 11:30**

Salle des Conférences (R229)

Centre Universitaire des Saints-Pères

45 rue des Saints-Pères, 75006 Paris

### **Klaus Hahn**

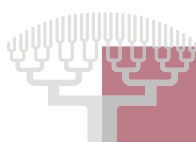
*Thurman Professor of Pharmacology*

*Department of Pharmacology; University of North Carolina at Chapel Hill, USA*

## *Seeing and controlling information flow through GTPase networks*

*Signaling proteins can produce essentially opposite cell behaviors depending on subtle differences in activation kinetics or transient localizations. To understand signaling controlled by spatio-temporal dynamics we have devised approaches to visualize and manipulate signaling networks in living cells and animals, including what we believe are broadly applicable methods to control proteins with light. The role of Rho family GTPase circuits in regulating motility is being probed using engineered allosteric switches to photoinhibit or photoactivate guanine exchange factors, kinases, and GTPases. Success with three different protein families leaves us optimistic that there is a simple way to identify and control allosteric networks with light or small molecules. LOVTRAP, a method for light-controlled sequestration and release of proteins, will also be described. LOVTRAP has been applied to modulate and dissect oscillating cellular circuits.*

Those interested in meeting with the speaker please contact  
[cendra.agulhon@parisdescartes.fr](mailto:cendra.agulhon@parisdescartes.fr)



Faculté des Sciences  
Fondamentales et Biomédicales  
UNIVERSITÉ PARIS DESCARTES

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