

# Seminar

## Spacio-temporal control of membrane fusion by caging of SNARE analogues

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### When & where

Tuesday 17 April 2018  
13:00 – 14:00 hrs  
Knowledge square  
5th floor, route 278

### Host

Geert van den Bogaart,  
Dept. of Tumor  
Immunology, RIMLS

### Registration

Not required

### Abstract

Membrane fusion is a key process in intracellular traffic that requires the mediation of fusion proteins like SNAREs in eucaryotic cells. Model peptides, composed of the coiled coil forming recognition pair E3 and K3 and the transmembrane domain of synaptic SNAREs syntaxin and synaptobrevin as membrane anchors, have shown to efficiently induce lipid mixing in liposomes [1,2]. Introducing light responsiveness to the model by caging key amino acids of the recognition units can provide spatio-temporal control over the fusion process and offer new insights to the underlying mechanisms. Nitrobenzyl and coumarin based photocleavable protecting groups were chosen to temporarily inhibit peptide activity, restoring it by UV light irradiation [3,4].

### Key Publications

1. *J. Biol. Chem.* 277, 37272–37279, 2002
2. *Chem. Commun.*, 47, 9405–9407m 2011
3. *ChemBioChem.* 7, 1690-1695, 2006
4. *ACS Macro Lett.* 5, 229–233, 2016