

## SYNTHETIC PHYSIOLOGY: **OPTICAL CONTROL OF CELLULAR SIGNALS**

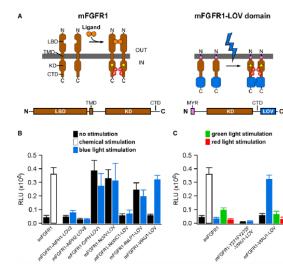
## **GUEST LECTURE by**



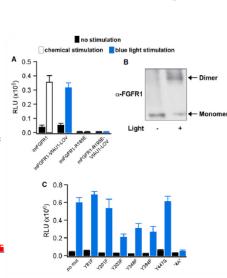
## Harald Janovjak, PhD **Institute of Science and Technology** Austria (IST Austria) **Klosterneuburg / Austria**

## Tuesday, 03.03.2015 17:00

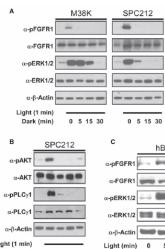
SR 07.13, Preclinics, MUG (Harrachgasse 21 1st floor)

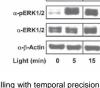


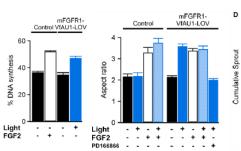
Design and function of mFGFR1-LOV domain chimeric receptors



Analysis of Opto-mFGFR1 dimerization and sites required for MAPK/ERK pathway activation.





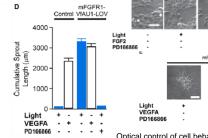


Activation of cellular signalling with temporal precision

0 5 15 30

Dark (min)

mFGFR1-VfAU1-LO\ 4000 Light FGF2 PD166866 Sprout (µm) 3000 1-VIAU1-LOV 2000 Length Activation of cellular 1000 signalling with spatial Light VEGF PD16 precision VEGFA PD166866 Optical control of cell behaviour.



Grusch et al. EMBO J (2014) 33: 1713-26