

PheroSys Meeting June 2009

WP2: Single glomerulus: Elementary response properties, convergence and inhibition

WP2 Topic 1

- PN and LN response patterns
 - 1 glomerulus model based on anatomical data
 - Adjust LN, PN, and GLO model with automatic fitting procedures to data
 - Build simplified model (rate) for use in networks & cross-validate to detailed model (spiking neurons)

WP2 Topic 2

- Amplification
 - Use detailed model of 1 GLO & ORN model/ data from WP1 to investigate response threshold
 - Stochastic resonance
 - Compare to experimental dose-response curves
 - Robustness
 - Additional mechanisms? - look for them in experimental data

WP2 Topic 3

- Frequency
 - Models for different neuron response types (in particular wrt responses to pheromone pulses)
 - Use neuron models to identify possible mechanisms of different response types.
- (Ratio coding -> WP3)

Deliverables

- D2.1 Single neuron models for LN, PN and MGC adapted from Av-Ron and Rospars (9)
- D2.2 Detailed (conductance based) one-glomerulus model of a MGC glomerulus, cross-evaluated against a large, systematic data set of input conditions (21)
- D2.3 Simplified one-glomerulus model, cross evaluated against data (27)
- D2.4 Report on the origins of amplification (36)
- D2.5 Report on noise-suppression (36)
- D2.6 Report on PN responses to dynamic stimuli (36)