

# Introduction to Stereology for Neuroscientists

Barcelona, Spain

Thursday, July 12, 2011

- 8:30 – 9:15**            *Lecture:* What is unbiased stereology: Probes, events, formulas
- 9:15 – 10:00**        *Lecture:* Point Probes, Volume Estimates, Cavalieri Principle
- 10:00 – 10:20**        *Pause*
- 10:20 – 11:30**        *Exercise:* Volume Estimation of CA of Human Hippocampus
- 11:30 – 12:00**        *Discussion*
- 12:00 – 13:00**        *Pause*
- 13:00 – 14:00**        *Lecture:* 3-D Probe (disector) Neuron Number estimation  $N_v \times V_{ref}$
- 14:00 – 15:00**        *Exercise:* Total Neuron Number in CA1 of Human Hippocampus
- 15:00 – 15:20**        *Pause*
- 15:20 – 16:00**        *Lecture:* Fractionator Sampling and Optical Fractionator
- 16:30 – 17:00**        *Discussion*

## Friday, July 13, 2011

- 8:30 – 9:30**      **Lecture:** Precision versus Bias, Systematic Sampling, Estimator Variance
- 9:30 – 10:15**      **Exercise:** Estimator Variance, Volume estimates
- 10:15 – 10:45**      **Pause**
- 10:45 – 11:30**      **Exercise:** Estimator Variance, Number estimates
- 11:30 – 12:00**      **Lecture and discussion:** Designing a Stereological Study, The pilot study
- 12:00 – 13:00**      **Lunch**
- 13:00 – 14:30**      **Lecture and discussion:** Designing a Stereological Study: How many samples,  
how many sections, how many animals?
- 14:30– 15:00**      **Pause**
- 15:00 – 15:45**      **Lecture:** Local Estimators, Object Volume, Isotropy
- 15:45 – 16:30**      **Exercise:** Mean Cell Volume, Nucleator
- 16:30– 17:00**      **Lecture :** Shrinkage and artifacts
- 16:35 – 17:00**      **Discussion**

### **Instructor:**

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