

Online Course; Quantitative Morphology and Histology using Stereology

Instructor:

Mark J. West, Professor of Medical Neurobiology, Aarhus University, Denmark

Ten (10), 90 minute Modules

- Module 1** Lecture (1): What is unbiased stereology: Probes, events, formulas?
Lecture (2): Point Probes, Volume Estimates, Cavalieri Principle, Q/A
- Module 2** Exercise 1: Cavalieri Estimate of Volume
Discussion Q/A
- Module 3** Lecture (3): 3-D Probe (disector) Neuron Number, $N_v \times V_{ref}$
- Module 4** Exercise 2: Total Neuron Number in CA1 of Human Hippocampus, Q/A
Lecture (3 cont.): Fractionator Sampling and Optical Fractionator, Q/A
- Module 5** Lectures (4,5,6): Precision vs Bias, Sampling, Estimator Variance
- Module 6** Exercise 3a: Estimator Variance, Volume estimates, Q/A
Exercise 3b: Estimator Variance, Number estimates Q/A
- Module 7** Lecture (7): Designing a Stereological Study.
How many samples, how many sections, how many animals? Q/A
Lecture (8): Getting Started
- Module 8** Lecture (9) The use of Spherical Probes to estimate Length
Exercise 4 The use of Spherical Probes to Estimate Length
- Module 9** Lecture (10): Local Estimators, Object Volume, Isotropy, Q/A
Exercise (5) Mean Cell Volume, Nucleator , Q/A
- Module 10** Lecture (11) Shrinkage and artifacts Tutti, Q/A
Lecture (12) StereoReporting
Final General Discussion