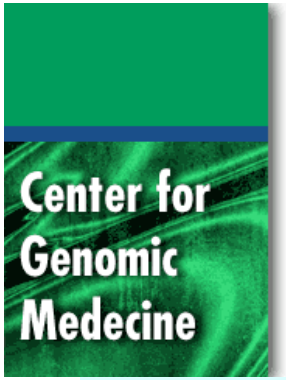

Statistical Genetics

Center for Genomic Medicine

Sep. 26-28, 2005

Sep.26(Mon.):seminar room A (room no.232)
Sep.27(Tue.),28(Wed.):seminar room B (room no.239)

Sep 26 (Mon)14:00-16:00 Overview of this lecture series in Japanese with basics on population genetics. Ryo Yamada
(a) What does statistical genetics handle besides disease-gene mapping? (b) Introduction to "Jurg's introduction" to statistical thinking in Japanese. (c) Disease-gene study. Mapping and others. (d) Japanese-to-English glossary for statistical genetics. (e) Topics in population genetics.

Sep 27 (Tue) 13:00-15:00 Basics of Statistical Gentics Jurg Ott
(a) Statistical thinking. Random variables. The concept of a statistic. Statistical estimation and test procedures. Likelihood and Bayesian approaches. Multiple testing. Bonferroni correction. False discovery rate. Independent and dependent tests. *Note*: This is all very basic, so don't get frightened! (b) Mendel Ian inheritance. Quantitative and qualitative phenotypes. Genetic determinism, heritability, Risch's Is static.

Sep 27 (Tue) 15:00-17:00 Genetic variations **(1) Jurg Ott**
Genetic linkage analysis. Pedigree analysis. Allele sharing statistics. Sibpair analysis, concordant and discordant sibpairs. Multiple affected offspring. Equivalence with recessive inheritance. Whittemore statistic. Binary traits and QTLs. The Haseman and Elston approach. Age at disease onset.

Sep 28 (Wed) 13:00-15:00 Genetic variations (2) **Jurg Ott**
Genetic association analysis (linkage disequilibrium). Case-control and family-based control (TDT, FBAT) designs. Genetic variants causing phenotypic variations. Haplotype (= allele pattern) and genotype pattern frequencies. "Common trait, common variant" hypothesis. Phylogeny of haplotypes (just briefly).

Sep 28 (Wed) 15:00-17:00 New methods and ideas to dissect genetic variations and their roles. **Jurg Ott**
Effect of environment. Replication. Proportion of true results in published disease gene associations. Role of scientist vis-à-vis public health.