

CUTTING EDGE METHODOLOGY

Chair: Dr. Neil Pearce, New Zealand

Plenary VI ALL INFERENCE IS BIASED JUDGEMENT

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One of the most pernicious myths perpetrated by standard methodologic training is that of unbiased or objective inference. Unbiased inference exists only within highly simplified models that do not begin to reflect the complexities of genuine public-health and risk-assessment settings. In those settings, neither unbiased estimators nor unbiased judgements can be identified.

All inferences depend on biased judgements, albeit some judgements are hidden within social conventions (eg, 0.05 significance levels, 95% confidence levels). Those conventions are often transmuted into claims of objectivity, thus obscuring the fact that all judgements (and hence all inferences) are biased—and not only by recognised vested interests. These conventions and claims incorporate biases prevalent in the environment in which we are educated, work and communicate. They limit our ability to see, question, and deviate from these conventions, which become priors embedding our thoughts. Because conventions provide a sense of orientation and security, they may feel compelling and be taken for granted even when they have little or no basis in fact or utility. While this problem has long been recognised, it is rarely accounted for in research and review. Transparency is the first step in such accounting: Methodology must lay bare conventions, preferences, and special interests that affect judgements so that the sources of inference can be critically evaluated.

Plenary VII EPIDEMIOLOGY BEYOND GENOMICS

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There is a spectacular increase in life expectancy in nearly all countries worldwide. In this presentation I will discuss the countertside of this phenomenon: the increase in diseases in the elderly. I will address the possible causes of diseases of old age, using data from the Rotterdam Study, a prospective follow-up study of 15 000 persons of 45 years or over that is, being conducted in a district of the city of Rotterdam, The Netherlands, since 1990. I will argue that ageing, as applied to the individual rather than the population, is an empty concept. In my presentation a particular focus will be on the possible genetic causes of disease in the elderly, and on possible gene-environment interaction. I will discuss the recent avalanche of genes found through genome-wide association studies, and the application of these findings in the study of disease etiology, prediction, treatment and prevention.