Wiener Biometrische Sektion
der Internationalen Biometrischen Gesellschaft
Region Österreich – Schweiz

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Einladung zum

Biometrischen Kolloquium

am Donnerstag, dem 10. November 2005, 13:30 s.t. Uhr

im Seminarraum (88.03.513) der
Besonderen Einrichtung für Medizinische Statistik und Informatik
(MSI)
der Medizinischen Universität Wien
Spitalgasse 23, 1090 Wien

Es spricht Herr Dr. Daniele De Martini von der Universität del
Piemonte Orientale in Novara (Italien) zum Thema:

- **Estimating Sample Size and Reproducibility for Nonparametric Statistical Tests**

Wir ersuchen um zahlreichen Besuch für diesen sehr interessanten
und aktuellen Vortrag.

Karl Moder   Werner Brannath
Präsident   Sekretär

Estimating Sample Size and Reproducibility for Nonparametric Statistical Tests

Daniele De Martini
Universita' del Piemonte Orientale-
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e Metodi Quantitativi (SEMEQ)

It is common practice in sample size computation to consider an experimental effect as known, whereas an experiment is conducted in order to study that effect, which is unknown. This fact generates a paradox. A possible solution consists in using a pilot sample to compute the sample size of a future experiment. Nevertheless, it is well known that to consider the observed effect and the observed variability as true can generate too small sample sizes. As a consequence, a conservative approach is generally adopted, based on the lower bound for the power, where the experimental effect can also be fixed. Then, sample size determination can be based on the estimated lower bound of the power. The method we propose is general and can be applied on one-sample or k-sample tests, univariate or multivariate. Finally, these results can be applied on highly significance results, i.e. on studies with low p-values, to evaluate the Reproducibility Probability, i.e. the Observed Power, and its lower bound, in order to avoid confirmatory trials.