

**Wiener Biometrische Sektion
der Internationalen Biometrischen Gesellschaft
Region Österreich – Schweiz**

<http://www.meduniwien.ac.at/wbs/>

Einladung zum

Biometrischen Kolloquium

am Montag, 28.01.08, um 15:30 Uhr

im Seminarraum (Ebene 3, Raum 88.03.513) der
Besonderen Einrichtung für Medizinische Statistik und Informatik
(MSI) der Medizinischen Universität Wien
Spitalgasse 23, 1090 Wien

Es spricht Herr Dr. Frank Bretz (Novartis) zum Thema:

**Ordered Multiple Comparisons with the Best and Their Applications to
Dose–Response Studies**

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

Werner Brannath
Präsident

Thomas Lang
Sekretär

Ordered Multiple Comparisons with the Best and Their Applications to Dose–Response Studies

F. Bretz (Biostatistics, Novartis Pharma AG, CH-4002 Basel, Switzerland), K. Strassburger and H. Finner (German Diabetes Center, Leibniz Center at Heinrich-Heine-University Düsseldorf, Institute of Biometrics and Epidemiology, Düsseldorf, Germany)

Summary

We consider the problem of comparing several treatments (dose levels, interventions, etc.) with the best, where the best treatment is unknown and the treatments are ordered in some sense. Order relations among treatments often occur quite naturally in practice. They may be ordered according to increasing risks, such as tolerability or safety problems with increasing dose levels in a dose–response study, for example. We consider the problem of constructing a lower confidence bound for the smallest index of all treatments being at most marginally less effective than the (best) treatment having the largest effect. Such a bound ensures at confidence level $1 - \alpha$ that all treatments with lower indices are relevantly less effective than the best competitor. We derive a multiple testing strategy that results in sharp confidence bounds. We further derive closed-form expressions for power and sample size calculations. Finally, we investigate several real data sets to illustrate various applications of our methods.

Frank Bretz, Ph.D., is Biometrical Fellow, Novartis Pharma AG. He received his PhD in biostatistics from the University of Hannover in 1999 and continued working there from 2000 until 2004, when he joined Novartis Pharma AG. He has been working on multiplicity issues arising in clinical trials, dose finding trials and adaptive designs since many years. He is adjunct professor at the Medical University of Hannover.