



FROM VISION TO DECISION

## SEMINAR FRIDAY 04.09.2015

MedViz Facilities, Møllendalsbakken 7, 5<sup>th</sup> floor, 12:00-13:00

### Statistical challenges and solutions in a wide range of applications



#### Geir Egil Eide

**Title:** *Power and precision in clinical studies*

**Abstract**

No researcher will like to end up with false or imprecise conclusions, i.e. falsely postulating an effect (rejection error) or no effect (acceptance error). Power calculations provide the statistical tool for minimizing the risks of such errors, and should be included in every project protocol. In this introductory lecture the most basic principles for calculating the minimum number of patients necessary in the study will be presented.



#### Karl Ove Hufthammer

**Title:** *A short introduction to Bland–Altman plots*

**Abstract**

Correlation cannot be used to assess agreement between two methods of clinical measurement. A popular alternative is to examine the differences between paired measurements made by the two methods on the same subjects. These differences can then be used to estimate the *typical* difference we would expect in future measurements, and the results can be presented visually, in what we call a *Bland–Altman plot*.



#### Ragnar Nortvedt

**Title:** *Experimental design – a faster route towards optimum*

**Abstract**

Too many scientific studies are performed to study the effects of one variable at the time. This is time consuming, inefficient and a waste of resources. In the worst cases you may also lose important information about interaction effects between variables and therefore never be able to model and hit the combination of variables that result in optimum responses, by this approach. The alternative multivariate approach, when you are testing several variables simultaneously, reflects the reality in nature and in practical situations in the lab or the clinic. Experimental design deals with systematic testing of effects from several variables at the time. Some examples of different types of statistical experimental design are presented in this lecture.

