Tutorial suggestion for 2016 meetings: Sensometrics and eurosense

using the r-package sensR for the planning and analysis of similarity and discrimination data

Per Bruun Brockhoff& Christine Borgen Linander

*Technical University of Denmark*

Abstract:

We will introduce the main features of the sensR package. The sensR package provides the following:

* Statistical tests of sensory discrimation and similarity data
* Power and sample size computations for discrimination and similarity tests
* Thurstonian analyses via d-prime estimation
* Improved confidence intervals via profile likelihood methods
* Linking "one sample at a time" Thurstonian analysis to more generic statistical
* analysis (regression and anova)
* Tools for analysing replicated discrimination data
* Comparing multiple d-primes

At the moment data from the following test protocols are supported by the sensR (and the supporting ordinal) package: Duo-Trio, Triangle, Tetrad, 2-AFC, 3-AFC, A-not A, Same-Different, 2-AC, A-not A w. Sureness.

Plan:

1. Planning and analysing “basic protocol” data.
2. Handling replicated data
3. A few perspectives towards Thurstonian Generalised Linear Model analysis
4. Hands-on working with examples

**References**Christensen, R. H. B. & P. B. Brockhoff (2015). sensR - An R-package for sensory discrimination. R package version 1.4-6. <http://www.cran.r-project.org/package=sensR/>

Christensen, R. H. B. (2015). ordinal - Regression Models for Ordinal Data. R package version 2015.1-21. <http://www.cran.r-project.org/package=ordinal/>

T. Næs, P.B. Brockhoff and O. Tomic, (2010). Statistics for Sensory and Consumer Science, John Wiley & Sons. (Chapter 7)

Brockhoff, P.B. and Christensen, R.H.B. (2010). Thurstonian models for sensory discrimination tests as generalized linear models. FQP, 21(3), 330-338.

Christensen, R.H.B. Cleaver, G. and Brockhoff, P.B. (2011). Statistical and Thurstonian models for the A-not A protocol with and without sureness, FQP 22(6), 542-54.