

BIOGRAPHICAL SKETCH

Jacqueline J. Meulman
Professor of Applied Statistics
Department of Mathematics, Leiden University
M.Sc. 1981 Mathematical Psychology
Ph.D. 1986 Applied Statistics
both at Leiden University, the Netherlands



Basics

I was originally appointed as *Professor of Applied Data Theory* in the *Faculty of Social and Behavioral Sciences* in 1998. Since 2006, I have a joint appointment in the *Department of Mathematics, Leiden University*, as *Professor of Applied Statistics*, and since 2009, this has become my main affiliation. The latter is in co-operation with the *Leiden-Amsterdam Center of Drug Research*, in particular the *Division of Analytical Biosciences*, which is also part of the Faculty of Sciences of Leiden University.

Since 1993, I hold a position as *Adjunct Professor* in the *Division of Quantitative Psychology* of the *University of Illinois at Urbana-Champaign*. Here I collaborated for many years with Lawrence Hubert. My research interests have shifted during the past seven years towards biostatistics, in particular the analysis of high-throughput data, such as SNPs in genome-wide association studies, and mass spectrometry data in metabolomics. Therefore the affiliation with Psychology at UIUC is not very operative anymore. Of my past affiliations, a highlight was my year as a consultant for *Bell Telephone Laboratories* in Murray Hill, NJ, from 1982-1983.

I am group leader of the *Leiden SPSS project* that has created software for *nonlinear multivariate analysis* in the SPSS package *CATEGORIES*. Since 1990, this collaboration has generated more than \$6,000,000 in revenues for the Leiden research group.

At the Mathematics Department, I am involved with the start-up of the first ever comprehensive *masters program in applied statistics* in the Netherlands, called *Statistical Science*. Richard Gill and I head a multifaceted consortium of the best instructors and world-famous researchers in applied and theoretical statistics from faculties of science (including bio- and life-sciences), medicine and psychology in Leiden and neighboring closely collaborating universities. See www.math.leidenuniv.nl/~statsci/.

"I keep saying the sexy job in the next ten years will be statisticians...The ability to take data—to be able to understand it, to process it, to extract value from it, to visualize it, to communicate it—that's going to be a hugely important skill in the next decades..."

Hal Varian (UC Berkeley), Google's Chief Economist in *The McKinsey Quarterly*, January 2009

Honors

- 2002 Elected to the Royal Netherlands Academy of Arts and Sciences (KNAW)
- 2001 Elected as President of the Psychometric Society
- 1996 Elected to the International Statistical Institute.
- 1994 PIONEER Award, Netherlands Organization for Scientific Research
- 1992 Fulbright Award, Senior Scholarship
- 1991 Johannes Cornelis Ruigrok Prize for Behavioral Science Research, Netherlands Society of Sciences
- 1987 Research Fellowship Royal Netherlands Academy of Arts and Sciences (KNAW)

Recent professional appointments

- 2009 – Member of the Executive Committee, Netherlands Statistical Society
- 2005 – Member of the General Board of the Royal Netherlands Academy of Arts and Sciences (KNAW)
- 2005 – Chair of the Selection Committee of the Dr A.H. Heineken Prize for the Cognitive Science (Royal Netherlands Academy of Arts and Sciences, KNAW)
- 2003 – Member Social and Behavioral Sciences Research Council (SWR)
- 2005 – 2007 Member of the Selection Committee SPINOZA awards (Netherlands Organization for Scientific Research, NWO)

- 2003 – 2006 Member Subcommittee Social and Behavioral Sciences, Evaluation Committee Research Schools (ECOS-KNAW)
- 2002 – 2004 Member of the Board of Trustees of the Psychometric Society
- 2002 Member Selection Committee Fulbright Awards, Netherlands America Commission for Educational Exchange
- 2001 Member Selection Committee Innovation Impulse, Netherlands Organization for Scientific Research (NWO)

Visiting Professorships

- 2001 – Department of Statistics, Stanford University, California, USA, Annually, multiple occasions
- 1993 - 2000 Department of Psychology, University of Illinois at Champaign-Urbana, USA, Annually, multiple occasions
- 2000 University of Naples, Italy, September
- 1999 Department of Industrial Relations, Rikkyo University, Tokyo, Japan, September
- 1997 Department of Statistics, University of Neuchatel, Switzerland, June
- 1992 Department of Psychology, University of Illinois at Champaign-Urbana, USA (Fulbright Research Award), May – Aug.
- 1991 Department of Psychology, University of Illinois at Champaign-Urbana, Illinois, USA, March – May.
- 1990 ZUMA (Zentrum für Umfragen, Methoden und Analysen), Mannheim, BRD, April
- 1988 Department of Psychology, McGill University, Montréal, Quebec, Canada, Oct. – Nov.
- 1988 Department of Psychology, McGill University, Montréal, Quebec, Canada (NWO Grant), May – June
- 1983 Visiting Researcher, Bell Telephone Laboratories, Murray Hill, NJ, USA, Sept. – Oct.

Books

I am co-author of a number of books:

- Meulman, J. J., Heiser, W. J., & SPSS Inc. (2008). *Categories 17.0*. Chicago: SPSS Inc.
- Hubert, L.J., Arabie, P., & Meulman, J.J. (2006). *The Structural Representation of Proximity Matrices with MATLAB*. ASA-SIAM Series on Statistics and Applied Probability. Philadelphia: SIAM.
- Hubert, L.J., Arabie, P., & Meulman, J.J. (2001). *Combinatorial Data Analysis: Optimization by Dynamic Programming*. SIAM Monographs on Discrete Mathematics and Applications. Philadelphia: SIAM.
- Albert Gifi (1990). *Nonlinear Multivariate Analysis* (Eds. W.J. Heiser, J.J. Meulman, G. van der Berg). New York: Wiley.

Software

The Leiden SPSS project resulted from Data Theory research on the analysis of multidimensional data, in particular nonlinear optimal scaling methods (regression, multivariate dimension reduction), and multidimensional scaling and unfolding, and comprises the implementation in user-friendly software.

I am also collaborating with Jerome Friedman, Stanford University, on the COSA project that resulted in “Clustering objects on subsets of variables (with discussion)”. *Journal of the Royal Statistical Society, Series B*, 66, 815-849, and accompanying software.

External Research Support

- 2009 - 2011 Megavariate diagnostics tools for system-based interventions. (via LACDR). Netherlands Metabolomics Center (\$ 158,000)
- 2006 - 2011 Nonlinear Dynamics of Natural Systems (via Mathematical Institute). Netherlands Organization for Scientific Research (\$ 198,000)
- 1999 - 2002 Data Theory for the Multivariate Analysis of Individual Differences. Special Grant from the Board of Directors of the Leiden University (\$ 363,000)
- 1995 - 2000 Subject Oriented Multivariate Analysis. PIONEER Grant. Netherlands Organization for Scientific Research (\$ 1,190,000)
- 1992 - 1993 Fulbright Award, Senior Scholarship
- 1987 - 1992 Five-year Fellowship, Royal Netherlands Academy of Arts and Sciences (KNAW) (\$ 330,000)