

**Standard Curriculum Vitae**

of Dankmar Böhning, Professor, Dr. rer. nat. (mathematics), habil. (medical statistics and epidemiology)



**Name:** Dankmar A.W. Böhning

**Present Appointment:**

Professor and Chair in Medical Statistics  
University of Southampton

**Education and Qualifications**

a) Pre-Diploma in Mathematics 1970-1973 University of Bielefeld

b) Diploma in Mathematics 1974-1977 Free University

Berlin

c) Dissertation in Mathematics (Dr. rer. nat.) 1981 Free University Berlin

d) Habilitation with *venia legendi* in *Medical Statistics and Epidemiology* at Faculty of Medicine 1992 Free University Berlin

**Previous Appointments**

Assistant Professor at Department of Statistics and Methods, Faculty of Educational Science, Free University Berlin, 1978-1982

Associate Professor in Department of Epidemiology, Institute for Social Medicine, Free University Berlin, 1982-2000

Extra-Ordinary Professor in Institute for Social Medicine, Epidemiology, and Health Economics, Joint Center of Health Sciences and Humanities, Charité Medical School Berlin, 2000-2005

Chair and Professor for Applied Statistics in the Life Sciences, University of Reading, England, October 2005 – September 2011

Chair and Professor in Medical Statistics, University of Southampton, England,  
October 2011 – present

### **Offers of Chairs in Statistics, Applied Statistics or Medical Statistics**

- 1) February 2004, Massey University, Palmerston North (NZ) – rejected
- 2) February 2004, University of Reading, Reading (UK) – **accepted**
- 3) November 2007, University of Southampton, Southampton (UK) – rejected
- 4) May 2011, University of Southampton, Southampton (UK) – **accepted**
- 5) November 2012, Johannes Kepler University, Linz, (Austria) - rejected

### **Visiting Appointments or Temporary Positions**

Leave of Absence to become „Visiting Associate Professor“, Department of  
Statistics, Pennsylvania State University (USA), 1985-1986 Pennsylvania State  
University

Visiting Professor within a DAAD-Lectureship (renewed 6 times), Department of  
Biostatistics, Mahidol University Bangkok (Thailand) (2 months visits per year),  
1994-1998

Visiting Professor in the Department of Methodology, Faculty of Psychology,  
University of Vienna (Vienna, Austria) 1996

Leave of Absence to represent a chair of „Applied Statistics“, Department of  
Statistics, Ludwig Maximilians University in Munich, 1997-1998

**Research and Scholarship****1. Research Grants and Contracts****UK****Commonwealth Academic Staff Fellowship for Chandanie W.C.W. Perera**

(Sri Lanka), *Capture-Recapture for Clustered Data*, Value: 15,000 £

**Germany****German Research Foundation (Deutsche Forschungsgemeinschaft)**

a) DFG Bo 865/1-3 (1991-1992)

*Applications of Mixture Models* (1 Research Assistant)

b) DFG Bo 865/1-4 (1993-1994)

*Problems of Inference and Applications of Mixture Models* (1 Research Assistant)

c) DFG Bo 865/3-1 (1995-1996)

*Models for Count Data with Many Zeros* (1 Research Assistant)

d) DFG Bo 865/3-2 (1997-1998)

*Models for Count Data with Many Zeros: the Censored Case* (1 Research Assistant)

e) DFG Bo 865/6-1, 6-2 (1999-2002)

*A Biostatistical Investigation of Heterogeneous Populations* (1 Research Assistant + Travel Funding)

f) DFG Bo 865/6-3, 6-4, 6-5, 6-6 (2003-2005)

*A Biostatistical Investigation and Modelling of Heterogeneous Populations – The Two Sample Case: A Profile Likelihood Mixture Approach* (1 Research Assistant + Travel Funding + Office Equipment)

g) German Research Foundation:

DFG Bo 865/12-1 (2005):

*Estimation of Relative Risk from Prevalence Studies with Information on Disease Duration* (1 Research Associate + Travel Funding). Value: £80,000 (administered by Charité Medical School)

h) German Research Foundation:

Hol1286/7-1 (2009/2010)

*Meta-Analysis of the Diagnostic Accuracy of Binary Diagnostic Tests* (1 Research Assistant for 2 years, travel funds). Value: £90,000 (joint project with Professor Holling, University of Münster)

**European Union: BIOMED2**

Project number 9811130 (1996-1998)

*Disease Mapping and Risk Assessment* (40,000 EU)

**German Ministry of Research and Technology (BMBF)**

Project number 9811132 (1997-2000)

*Statistical Methods and Algorithms in Meta-Analysis with Applications in Medical and Pharmaceutical Industry* (2 Research Assistant)

**German Academic Exchange Service (DAAD)**

Several Lectureship Grants for teaching Biostatistics in Thailand (1994-2004)

Grant for Cooperation with the Department of Statistics (Prof. A. Biggeri), University of Florence within the Vigoni-Framework (1998-2000) (20,000 EU)

**2. Information on research students supervised****UK****PhD Supervision 2014 starters (Southampton):**

Prabin Dalal (UK): *Meta-Analysis and Choice of Effect size Measure*

**PhD Supervision 2013 starters (Southampton):**

Panicha Kaskasamkul (Thailand): *Capture-recapture modelling under misclassification*

**PhD Supervision 2012 starters (Southampton):**

Orasa Anan (Thailand): *Capture-Recapture Methodology with Constraints*

**PhD Supervision 2011 starters (Southampton):**

Alberto Vidal-Diez (UK): *Capture-Recapture Methodology in the Context of Surveillance*

**University of Reading****PhD Supervision 2008 starters:**

a) Rattana Lerdsruwansri (Thailand): *Generalizations of Zelterman estimation in Capture-Recapture Problems with Applications to Life Sciences* (PhD completed)

b) Supada Charoensawat (Thailand): *Meta-analytic modelling with special emphasis on diagnostic studies* (PhD completed)

**Ad-hoc programme for 2008 joint PhD supervision with *La Sapienza* (Rome):**

Irene Rochetti (Italy): *Capture-Recapture for Demographic Problems* (PhD completed)

**PhD Supervision 2007 starters:**

a) Osama Abdelhay (Jordan): *Meta-Analysis on the Effect of Alcohol on Mortality* (PhD completed)

b) Krisana Lanumtaeng (Thailand): *Capture-Recapture with Life-Science Applications* (PhD completed)

**PhD Supervision 2006 starters:**

Isak Neema (Namibia): *Surveillance and Monitoring of Crime in Namibia by Means of Likelihood based Cluster Analysis* (PhD completed)

**Germany****PhD Supervision in 2005:**

- a) Ronny Kuhnert: *Investigation of different Models for Heterogeneity in multi-centre Studies* Doctorate given by Charité Medical School (Dr. rer. medic.)
- b) Sasivimol Rattanasiri: *Modelling Coivariate Information in multi-centre Studies with Binary Outcome using the Profile Likelihood.* Doctorate given by Charité Medical School (Dr. rer. medic.)

**PhD Supervision in 2003:**

Intriago Belen Guterrez: *Investigation of prevalence, characteristics, and potential influential factors for bicycle helmet usage in Berlin* Doctorate given by Charité Medical School (Dr. rer. medic.)

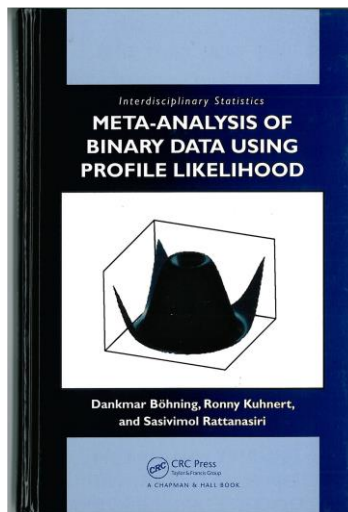
**PhD Supervision in 2002:**

Malinee Laopaiboon; *Meta-Analysis Involving Cluster/Community Randomized Trials: The different approaches for modeling discrete outcome* Doctorate given by Charité Medical School (Dr. rer. medic.)

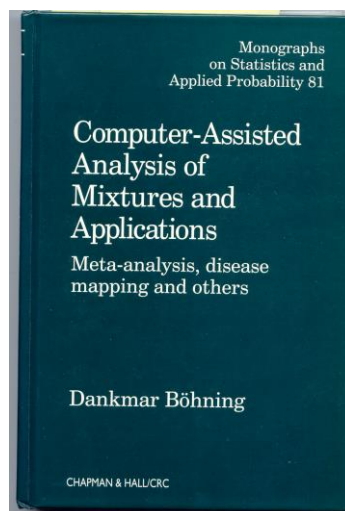
### 3. Research outputs

#### *Books*

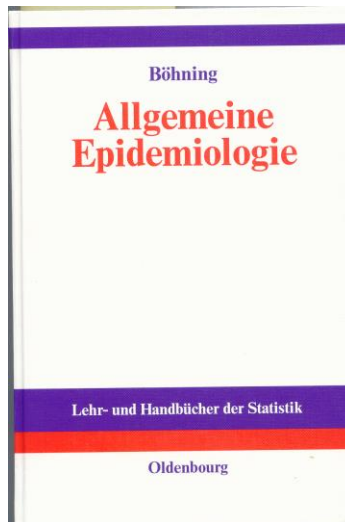
**Böhning, D.**, Kuhnert, R., S. Rattanasiri (2008). *The Profile Likelihood for Meta-Analytic Studies with Binary Outcome*. Chapman & Hall/CRC, Boca Raton, USA. 200 pages.



**Böhning, D.** (2000). *Computer Assisted Analysis of Mixtures and Applications: Meta-Analysis, Disease Mapping, and Others*. Chapman & Hall/CRC, London. 260 pages.

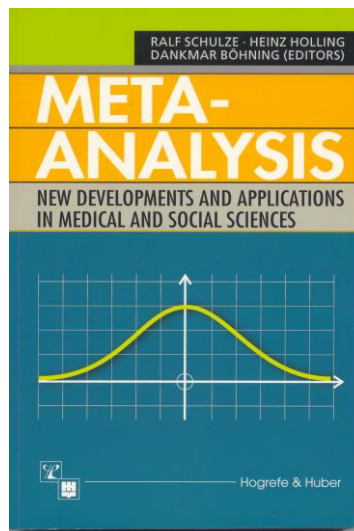


**Böhning, D.** (1998). *Allgemeine Epidemiologie and ihre methodischen Grundlagen*. Oldenburg-Verlag, München. 260 pages (in German).

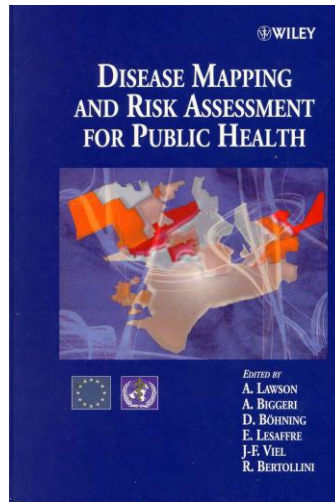


*Books (with editorial character)*

Schulze, R., Holling, H., **Böhning, D.** (2003). *Meta-Analysis. New Developments and Applications in Medical and Social Sciences*. Hogrefe & Huber, Göttingen. 270 pages.



Lawson, A., **Böhning**, D., Lesaffre, E., Biggeri, A., Viel, J.-F., Bertollini, R. (1999). *Advanced Methods of Disease Mapping & Risk Assessment for Public Health Decision Making*. Wiley, New York. 400 pages.



*Journals* (only the recent 15 years)

## 2014

Maruotti, A., & **Böhning, D.** (2014). Smooth nonparametric heterogeneity estimation with an application to meta-analysis. (in progress).

**Böhning, D.**, Mylona, K., Kimber, A. (2014). Meta-analysis of clinical trials with rare events. (submitted).

Rocchetti, I., Alfö, M., **Böhning, D.** (2014). A regression estimator for mixed binomial capture-recapture data. *Journal of Statistical Planning and Inference* **145**, 165-178.

**Böhning, D.**, Rocchetti, I., Alfö, M., Holling, H. (2014). A ratio regression approach for zero-truncated capture-recapture counts. *Annals of Applied Statistics* (in revision).

Van der Heijden, P.G.M., M. Cruyff and **D. Böhning** (2014). Capture-recapture to estimate crime populations. In: G.J.N. Bruinsma and D.L. Weisburd (eds.). *Encyclopedia of Criminology and Criminal Justice*. Berlin: Springer, 267 – 278.

## 2013

**Böhning, D.**, Lerdsuwansri, R., Vidal-Diez, A., Viwatwongkasem, C., Arnold, M. (2013). A Generalization of Chao's Estimator for Covariate Information. *Biometrics* **69**, 1033-1042.

Fikret Ikiz, Mehmet Orman, Timur Köse, **Böhning, D.**, Baksh, M.F. and Gallagher, J. (2013). Extending the Lincoln-Petersen Estimator for Multiple Identifications in One Source. *Statistics in Medicine* (accepted).

Holling, H., Böhning, W., **Böhning, D.**, Formann, A.K. (2013). The covariate-adjusted frequency plot. *Statistical Methods in Medical Research* (in press).

**Böhning, D.**, Karasek, S., Terschüren, C., Annuß, R., Fehr, R. (2013). A nonparametric random coefficient approach for life expectancy growth

using a hierarchical mixture likelihood model with application to regional data from North Rhine-Westphalia (Germany). *BMC Medical Research Methodology* **13**:36, DOI:10.1186/1471-2288-13-36.

Niwitpong, S., **Böhning, D.**, van der Heijden, P.G.H., Holling, H. (2013) Capture–Recapture Estimation Based Upon the Geometric Distribution allowing for Heterogeneity. *Metrika* **76**, 495-519.

## 2012

Bunge, J., Woodard, L., **Böhning, D.**, Foster, J.A., Connolly, S., Allen, H.K. (2012). Estimating population diversity with CatchAll. *Bioinformatics* **28**, 1045-1047.

Holling, H., Böhning, W., and **Böhning, D.** (2012). Meta-Analysis of Diagnostic Studies based upon SROC-Curves: a Mixed Model Approach using a Proportional Hazards Model. *Statistical Modelling – an International Journal* **12**, 347-375.

Doebler, P., Holling, H., and **Böhning, D.** (2012). A mixed model approach to meta-analysis of diagnostic studies with binary test outcome. *Psychological Methods* **17**, 418-436.

**Böhning, D.**, Baksh, M.F., Lerdsuwansri, R., and Gallagher, J. (2012). The use of the ratio-plot in capture-recapture estimation. *Journal of Computational and Graphical Statistics* **22**, 133-155.

Holling, H., Böhning, W., and **Böhning, D.** (2012). Likelihood based clustering of meta-analytic SROC curves. *Psychometrika* **77**. 106-126.

Viwatwongkasem, C., Jitthavech, J., **Böhning, D.**, Lorchirachoonkul, V. (2012). Minimum MSE Weights of Adjusted Summary Estimator of Risk Difference in Multi-Center Studies. *Open Journal of Statistics* **2**, 48-59.

Ashby, D., Bird, S.M., Hunt, I., Grant, R., King, T., Atkinson, A.C., Gandy, A., Caan, W., Eames, M., Arjas, E., **Böhning, D.**, Campbell, M.J., Jacques, R.M., Fotheringham, J., Maheswaram, R., Nicholl, J., Chacón, J.E., Montanuero, J., Feinberg, S.E., Gekman, A., Geskins, R.B., Jankowski,

H.K., Longford, N.T., Louis, T.H., Mengersen, K., Militino, A. F., Ugarte, M.D., Phillpots, G., Porcu, E., Scott, E.M., Gemmell, J.C., Stein, A., Woodall, W.H. (2012). Statistical methods for healthcare regulation: rating, screening and surveillance – discussion of the paper by Spiegelhalter, Sherlaw-Johnson, Bardsley, Blunt, Wood and Grigg. *Journal of the Royal Statistical Society A* **175**, 24-47.

## 2011

Baksh, M.F., **Böhning, D.**, and Lerdsuwansri, R. (2011). An extension of an over-dispersion test for count data. *Computational Statistics and Data Analysis* **55**, 466-474.

**Böhning, D.**, Kuhnert, R., and Del Rio Vilas, V. (2011). Capture-Recapture Estimation by Means of Empirical Bayesian Smoothing with an Application to the Geographical Distribution of Hidden Scrapie in Great Britain. *Journal of the Royal Statistical Society C* **60**, 723-741.

**Böhning, D.**, Holling, H., and Patilea, V. (2011). A Limitation of the Diagnostic-Odds Ratio in Determining an Optimal Cut-Off Value for a Continuous Diagnostic Test. *Statistical Methods in Medical Research* **20**, 541-550.

Lanumteang, K. and **Böhning, D.** (2010). An Extension of Chao's Estimator of Population Size Based on the First Three Capture Frequency Counts. *Computational Statistics and Data Analysis* **55**, 2302-2311.

Rocchetti, I., Bunge, J., and **Böhning, D.** (2011). Population Size Estimation Based upon Ratios of Recapture Probabilities. *Annals of Applied Statistics* **5**, 1512-1533.

Robb, M. and **Böhning, D.** (2011). Imputing Unobserved Values with the EM Algorithm under Left and Right-Truncation, and Interval Censoring for Estimating. *Biometrical Journal* **53**, 75-87.

## 2010

Rufibach, K., Delaigle, A., Zhang, W., Li, J., Gopal, V., Casella, G., Xue, J.-H., Titterington, D.M., Lu, K., Young, A., Stone, M., Xia, Y., Tong, H., Cheng, M.-Y., Hall, P., Wellner, J., Seregin, A., Koenker, R., Mizera, I., Anagnostopoulos, C., **Böhning, D.**, Wang, Y., Chacón, J., Chen, Y., Critchley, F., Dannemann, J., Munk, A., Draper, D., Hazelton, M.L., Jang, W., Lim, J., Jankowski, H.K., Kypraios, T., Preston, S.P., Leng, C., Jeon, Y., Schuhmacher, D., Walther, G. (2010). Maximum likelihood estimation of a multi-dimensional log-concave density - discussion of the paper by Cule, Samworth and Stewart. *Journal of the Royal Statistical Society B* **72**, 577-607.

**Böhning, D.** (2010). Some General Comparative Points on Chao's and Zelterman's Estimators of Population Size. *Scandinavian Journal of Statistics* **37**, 221-236.

Neema, I. and **Böhning, D.** (2010). Improved methods for surveying and monitoring crimes through likelihood based cluster analysis. *International Journal of Criminology and Sociological Theory* **3**, 477-495.

## 2009

**Böhning, D.** and van der Heijden, P. (2009). A covariate adjustment for zero-truncated approaches to estimating the size of hidden and elusive populations. *Annals of Applied Statistics* **3**, 595-610.

**Böhning, D.** and van der Heijden, P. (2009). Recent developments in life and social science. *AStA Advances in Statistical Analysis* **93**, 1-3.

Brittain, S. and **Böhning, D.** (2009). Estimators in capture-recapture studies with two sources. *AStA Advances in Statistical Analysis* **93**, 23-47.

Kuhnert, R. and **Böhning, D.** (2009). CAMCR: Computer-Assisted Mixture model analysis. *AStA Advances in Statistical Analysis* **93**, 61-71

Del Rio Vilas, V. and **Böhning, D.** (2009). On the question of proportionality of the count of observed Scrapie cases and the size of holding. *BMC Veterinary Research* **5**:17.

**2008**

- Formann, A. and **Böhning, D.** (2008). Letter to the Editor. *Biostatistics* **9**, 777-778.
- C. W. C. W. Navaratna, Del Rio Vilas, V., and **Böhning, D.** (2008). Extending Zelterman's Approach for Robust Estimation of Population Size to Zero-truncated Clustered Data. *Biometrical Journal* **50**, 584-596.
- Böhning, D.**, Böhning, W., and Holling, H. (2008). Revisiting Youden's Index as a Useful Measure of the Misclassification Error in Meta-Analysis of Diagnostic Studies. *Statistical Methods in Medical Research* **17**, 543-554.
- Böhning, D.** (2008). A Simple Variance Formula for Population Size Estimators by Conditioning. *Statistical Methodology* **5**, 410-423
- Böhning, D.** and Patilea, V. (2008). A Capture-Recapture Approach for Screening Using Two Diagnostic Tests with Availability of Disease Status for the Test-Positives Only. *Journal of the American Statistical Association* **103**, 212-221
- Böhning, D.** and Del Rio Vilas, V. (2008). Estimating the hidden number of scrapie affected holdings in Great Britain using a simple, truncated count model allowing for heterogeneity. *Journal of Agricultural, Biological, and Environmental Statistics* **13**, 1-22.
- Del Rio Vilas, V. and **Böhning, D.** (2008). Application of one-list capture-recapture models to scrapie surveillance data in Great Britain. *Preventive Veterinary Medicine* **85**, 253-266.
- Del Rio Vilas, V., **Böhning, D.** and Kuhnert, R. (2008). A comparison of the active surveillance of scrapie in the European Union *Veterinary Research* **39**:37.
- Böhning, D.** (2008). Editorial – Recent Developments in Capture-Recapture. *Biometrical Journal* **50**, 954-956.

Kuhnert, R., Del Rio Vilas, V., Gallagher, J., **Böhning, D.** (2008). A Bagging-Based Correction for the Mixture Model Estimator. *Biometrical Journal* **50**, 993-1005.

## 2007

**Böhning, D.** and Kuhnert, R. (2007). A Comparison of Three Different Models for Estimating Relative Risk in Meta-Analysis of Clinical Trials under Unobserved Heterogeneity. *Statistics in Medicine* **26**, 2277-2296.

**Böhning, D.**, Seidel, W., Alfó, M., Garel, B. Patilea, V. and Walther, G. (2007). Advances in Mixture Models. *Computational Statistics and Data Analysis* **51**, 5205-5210.

Holling, H., **Böhning, D.** and Böhning, W. (2007). Meta-Analysis of Binary Data Based Upon Dichotomized Criteria *Zeitschrift für Psychologie / Journal of Psychology* **215**, 122 -131.

## 2006

**Böhning, D.** and Kuhnert, R. (2006). The Equivalence of Truncated Count Mixture Distributions and Mixtures of Truncated Count Distributions. *Biometrics* **62**, 1207-1215.

**Böhning, D.** and Greiner, M. (2006). Evaluation of the Cumulative Evidence for Freedom of BSE in Birth Cohorts. *European Journal of Epidemiology* **21**, 47-54.

**Böhning, D.** and Greiner, M. (2006). Modeling Cumulative Evidence for freedom from Disease With Applications to BSE Surveillance Trials. *Journal of Agricultural, Biological & Environmental Statistics* **11**, 280-295.

## 2005

- Böhning, D.** (2005). Meta-Analysis: a Unifying Meta-Likelihood Approach Framing Unobserved Heterogeneity, Study Covariates, Publication Bias, and Study Quality. *Methods of Information in Medicine* **44**, 127-136.
- Böhning, D.,** Dietz, E., Kuhnert, R., Schön, D. (2005). Mixture Models for Capture-Recapture Count Data. *Statistical Methods & Applications* **14**, 29-43.
- Böhning, D.** (2005). How Many Foodborne Outbreaks of Salmonella Infection Occurred in France in 1995? Application of the Capture-Recapture Method to Three Surveillance Systems. *American Journal of Epidemiology* **169**, 389-390.
- Böhning, D.** and Kuhnert, R. (2005). The Failure of Meta-Analytic Asymptotics for the Seemingly Efficient Estimator of the Common Risk Difference. *Statistical Papers* **46**, 541-554.
- Böhning, D.** (2005). Nonparametric maximum likelihood estimation of the population size based upon the counting distribution. *Journal of the Royal Statistical Society, Series C, Applied Statistics* **54**, 721-737.
- Böhning, D.** and Viwatwongkasem, C. (2005). Revisiting Proportion Estimators. *Statistical Methods in Medical Research. An International Review Journal*. **14**, 1-23.
- Böhning, D.** and Patilea, V. (2005). Asymptotic Normality in Mixtures of Power Series Distributions. *Scandinavian Journal of Statistics* **32**, 115-131.

## 2004

- Rattanasiri, S., **Böhning, D.**, Rojanavipart, P., Athipanyakom, S. (2004). A mixture model application in disease mapping of malaria. *Southeast Asian Journal of Tropical Medicine and Public Health* **35**, 38-47.
- Böhning, D.,** Suppawattanabodee, B., Kusolvisitkul, W, and Viwatwongkasem, C. (2004). Estimating the Number of Drug Users in Bangkok 2001: A Capture-Recapture Approach Using Repeated Entries in One List. *European Journal of Epidemiology* **19**, 1075-1083.

**Böhning, D.**, Sarol, J., Rattanasiri, S., Viwatwongkasem, C., and Biggeri, A. (2004). A comparison of non-iterative and iterative estimators of heterogeneity variance for the standardized mortality ratio. *Biostatistics* **5**, 61-74.

## 2003

**Böhning, D.** & Seidel, W. (2003). Editorial: Recent developments in mixture models. *Computational Statistics and Data Analysis* **41**, 349-357.

Nityasuddhi, D. & **Böhning, D.** (2003). Asymptotic properties of the EM algorithm estimate for normal mixture models with component specific variances. *Computational Statistics and Data Analysis* **41**, 591-601.

Biggeri, A., Dreassi, E., Lagazio, C., & **Böhning, D.** (2003). A transitional non-parametric maximum pseudo-likelihood estimator for disease mapping. *Computational Statistics and Data Analysis* **41**, 617-629.

**Böhning, D.** (2003). The EM Algorithm with Gradient Function Update for Discrete Mixtures with Known (Fixed) Number of Components *Statistics and Computing* **13**, 257-265.

**Böhning, D.** (2003). Empirical Bayes estimators and non-parametric mixture models for space and time-space disease mapping and surveillance. *Environmetrics* **14**, 431-451.

**Böhning, D.**, Malzahn, U., Schlattmann, P., Dammann, U.-P., Mehnert, W., Holling, H., Schulze, R. (2003). The application of statistical methods of meta-analysis for heterogeneity modelling in medicine and pharmacy, psychology, quality control and assurance. In: *Mathematics: Key Technology for the Future*. Ed. by W. Jäger and H.-J. Krebs, Springer, Heidelberg, 533-553.

## 2002

**Böhning, D.**, Malzahn, U., Dietz, E., Schlattmann, P., Viwatwongkasem, C., Biggeri, A. (2002). Some general points in estimating heterogeneity variance with the DerSimonian-Laird estimator. *Biostatistics* **3**, 445-457.

- Böhning, D.**, Malzahn, U., Sarol, J., Rattanasiri, S., Biggeri, A. (2002). Efficient non-iterative and nonparametric estimation of heterogeneity variance for the standardized mortality ratio. *Annals of the Institute of Statistical Mathematics* **54**, 827-839.
- Böhning, D.**, Ruth Boose, Sandra Kurzawski, Nadine Saul (2002). Bicycle Safety Helmet Usage in Berlin 1999: An Observational Study. *Sozial- und Präventivmedizin* **47**, 001-004.
- Schmitt, J. & **Böhning, D.** (2002). Ein Vergleich der sozialmedizinischen Begutachtungen zur Pflegeversicherung (SGB XI) und nach dem Berliner Landespflegegesetz (HPG). *Das Gesundheitswesen* **64**, 578-584.
- Böhning, D.** & Ruangroj, R. (2002). A note on the maximum deviation of the scale-contaminated normal to the best normal distribution. *Metrika* **55**, 177-182.

## 2000

- Böhning, D.**, Dietz, E., & Schlattmann, P. (2000). Space-time mixture modelling of public health data. *Statistics in Medicine* **19**, 2333-2344.
- Böhning, D.** & Sarol, J. (2000). A nonparametric estimator of heterogeneity variance with applications to SMR- and proportion-data. *Biometrical Journal* **42**, 321-334.
- Böhning, D.** & Sarol, J. (2000). Estimating risk difference in multicenter studies under baseline-risk heterogeneity. *Biometrics* **56**, 304-308.
- Disease Mapping Collaborative Group: Andrew Lawson, Annibale Biggeri, **Dankmar Böhning**, Emmanuel Lesaffre, Jean-Francois Viel, Allen Clark, Peter Schlattmann, Fabio Divino (2000). Disease Mapping Models: An Empirical Evaluation. *Statistics in Medicine*, **19**, 2217-2241.
- Malzahn, U., **Böhning, D.**, Holling, H. (2000). Nonparametric estimation of heterogeneity variance for the standardised difference used in meta-analysis. *Biometrika* **87**, 619-632.

## 1999

**Böhning, D.**, Dietz, E., Schlattmann, P., Mendonça, L., Kirchner, U. (1999). The zero-inflated Poisson model and the DMF-Index in dental epidemiology. *Journal of the Royal Statistical Society, Ser. A* **160**, 195-209.

**Böhning, D.** & Rampai Suksawasdi Na Ayuthya (1999). Analysis of Geographical Heterogeneity in Live-Birth Ratios in Thailand. *Journal of Epidemiology and Biostatistics* **4**, 115-122.

Hoffmeister, H., Schelp, F.-P., Mensink, G.N.M., Dietz, E. & **Böhning, D.** (1999). The Relationship Between Alcohol Consumption, Health Indicators, and Mortality in the German Population. *International Journal of Epidemiology* **28**, 1066-1072.

## 1998

**Böhning, D.**, Dietz, E. & Schlattmann, P. (1998). Recent developments in C.A.MAN (Computer Assisted Analysis of Mixtures). *Biometrics* **54**, 525-536

**Böhning, D.** & Greiner, M. (1998). Unbiased point and variance estimates of a prevalence by mixture distribution analysis. *Preventive Veterinary Medicine* **36**, 11-23.

Rampai Suksawasdi Na Ayuthya & **Böhning, D.** (1998). Risk factors for traffic accidents in Bangkok: a case-reference study. *Southeast Asian Journal of Tropical Medicine* **28**,

**Böhning, D.** (1998). Zero-inflated Poisson models and C.A.MAN: a tutorial collection of evidence. *Biometrical Journal* **40**, 833-843.

Dietz, E. & **Böhning, D.** (1997). The use of two-component mixture models with one completely or partly known component. *Computational Statistics* **12**, 219-234.

## 1997

**Böhning, D.** & Rampai Suksawasdi Na Ayuthya (1997). A case-control study of non-fatal traffic accidents of hospital patients in Bangkok metropolis. *Sozial- und Präventivmedizin* **42**, 351-357.

**Böhning, D.**, Schlattmann, P. & Dietz, E. (1997). Zero-inflated Count Models and their Applications in Public Health and Social Science. *Beitrag zur Sankelmark-Konferenz*. In: Applications of Latent Trait and Latent Class Models in the Social Sciences, hrsg. v. J. Rost und J. Langeheine. Waxmann, Münster (1997), S. 333-344.

## 1996

**Böhning, D.**, Schlattmann, P. & Dietz, E. (1996). Interval censored data: A note on the nonparametric maximum likelihood estimator of the distribution function. *Biometrika* **83**, 462-466.

Schlattmann, P., Dietz, E. & **Böhning, D.** (1996). Covariate adjusted mixture models and disease mapping with the program DismapWin. *Statistics in Medicine* **15**, 919-931.

**Böhning, D.** (1995). A review of reliable algorithms for the semi-parametric maximum likelihood estimator of a mixture distribution. *Journal of Statistical Planning and Inference* **47**, 5-28.

**C. Teaching**

MSc: Statistical Inference (with Tutorial)

MSc: Modelling Structured Data

MSc: Ecological Sampling Methods

MSc: Research Methods

MSc: Data Analysis

MSc: Statistical Computing

**D. Awards**

1989 Research Award of Alexander -von- Humboldt-Stiftung (60,000 DM) for the cooperation with Bruce Lindsay in Mixture Models

1991, 1992 DAAD-Research Award within the special program „Epidemiology and Biostatistics“ for research activities at the Faculty of Public Health , Mahidol University in Bangkok

2000 Title *Extra-Ordinary Professor* given by the Free University Berlin

2006 Honorary Doctorate given by the Free University Berlin for long-lasting contribution to international cooperation in Epidemiology and Biostatistics

2009 Nomination of the Section of Applied Statistics of the University of Reading for the best paper price

**E. Administration and other activities****Consultancies****University of Reading**

Consultancy contract on *An Investigation of Count Models to the Estimation of the Number of Scrapie Affected Holdings in the UK*, with VLA on behalf of DEFRA, 2006-2007, Value £35,000

Consultancy contract on *An Investigation of Spatial and empirical Bayes Models for the Estimation of Hidden Scrapie Affected Holdings in the UK*, with VLA on behalf of DEFRA, 2008-2009, Value £27,000

Consultancy contract on *Secondary and Meta Analysis of Energy Consumption Reduction Trials*, with OFGEM, 2010, Value £25,000

Consultancy contract on *Supplementary Secondary and Meta Analysis of Energy Consumption Reduction Trials*, with OFGEM, 2010, Value £6,000

**University of Southampton**

Consultancy contract on *Development and Analysis of Covariate Information in Capture-Recapture Surveillance of Farm Submissions in Great Britain*, with AHVLA, 2011-2012, Value £10,000.

Consultancy contract on *Review of the current practice of the WHO on tuberculosis surveillance using capture-recapture*, with WHO Geneva (Switzerland), Value \$ 6,000.

**Editorial Work**

1992 - 2005: Associate Editor of *Biometrics* (retired)

since 2000: Associate Editor of *Statistical Modelling* (retired)

since 2004: Associate Editor of *Biometrical Journal*

since 2008: Associate Editor of *Statistical Methods in Medical Research*

since 2008: Associate Editor of *Thailand Statistician: Journal of the Thai Statistical Association*

since 2009: Associate Editor of *Turkiye Klinikleri Journal of Biostatistics*

since 2008: Associate Editor of *Computational Statistics and Data Analysis*  
(retired)

2001, 2006 Guest Editor for 2 Special Issues of *Computational Statistics and Data Analysis*

2008 Guest Editor for a Special Issue on Capture-Recapture of *Biometrical Journal*

2009 Guest Editor for a Special Issue on Capture-Recapture of *AStA Advances in Statistical Analysis*

2013 Guest Editor of a Special Issue on Mixture Models for *Computational Statistics and Data Analysis*

2013/14 Guest Editor of a Special Issue at the occasion of the 10<sup>th</sup> Anniversary of S3RI in *Statistical Methods in Medical Research*

Referee for many international journals such as *Annals of Statistics*, *American Journal of Epidemiology*, *Biometrika*, *Biometrical Journal*, *Journals of the Royal Statistical Society*, *Journal of the American Statistical Association*, *Scandinavian Journal of Statistics*, *Statistics in Medicine*, and many more.

### **Panel member**

German Research Foundation Panel for Biometry and Clinical Trials

MRC reviewer for Biometry and Medical Statistics

### **Examiner**

MSC Statistics at the University of Kent

**International Work**

*Major links* to most of the Universities in *Thailand* (regular visits to Thailand; good knowledge of the country; basic knowledge of the language)

Minor links to Laos and the Philippines

Current *active links* to Ege University in Izmir (Turkey) via the ERASMUS programme as well as to ENSAI in Rennes (France)

Links to Sapienza University in Rome (Italy) and Cornell University in New York (USA)