

CV for Hans Bruun Nielsen

Born: May 23, 1943 in Copenhagen, Denmark. Citizenship: Danish.

Degrees

1967: M.Sc. in Civil Engineering and Applied Mathematics,

1971: Ph.D. from the Institute for Numerical Analysis and Hydraulic Laboratory, DTU.

Employments

1967–1968: Assistant Professor at Hydraulic Laboratory, DTU.

1970–1971: Assistant Professor at Institute for Numerical Analysis, DTU.

1971–1993: Associate Professor at Institute for Numerical Analysis, DTU.

Since 1993: Associate Professor at IMM, DTU.

Employments Abroad

1978: Structure Laboratory, Lockheed Missiles and Space Company, Palo Alto, California, USA.

Recent publications**Books**

1. K. Madsen, H.B. Nielsen: *Introduction to Optimization and Data Fitting*. Under preparation, approx. 350 pages.
2. P.C. Hansen, H.B. Nielsen: *Least Squares Solution of Linear Systems*. Chapter B4 in HANDBOOK OF LINEAR ALGEBRA, CRC, September 2006, 16 pages.
3. L. Eldén, L. Wittmeyer-Koch, H.B. Nielsen: *Introduction to Numerical Computation, analysis and MATLAB illustrations*. Studentlitteratur, Lund, 2004. 360 pages.
4. H.B. Nielsen: *Numerisk Lineær Algebra, 2. udgave*. (In Danish). IMM, DTU, 1996. 238 pages.

Journal papers

1. K. Madsen, H.B. Nielsen, M.C. Pinar, *Bound Constrained Quadratic Programming via Piecewise Quadratic Functions*. Mathematical Programming **85**(1), 1999, 135-156.
2. K. Madsen, H.B. Nielsen, M.C. Pinar, *A Finite Continuation Algorithm for Bound Constrained Quadratic Programming*. SIAM J. Optimization **9**(1), 1999, 62-83.
3. G. Greene, R. Greene, H.B. Nielsen, S. Markvorsen, P. Røgen, R. Sinclair, M. Ungstrup, *Feature Recognition for Automated Sculpture Reproduction*. ECMI Newsletter **25**, 1999, 15-18

continues ...

Reports

1. S.N. Lophaven, H.B. Nielsen, J. Søndergaard, *Aspects of the Matlab Toolbox DACE*. Report IMM-REP-2002-13, IMM, DTU. (2002), 44 pages.
2. S.N. Lophaven, H.B. Nielsen, J. Søndergaard, *DACE - A Matlab Kriging Toolbox, Version 2.0*. Report IMM-REP-2002-12, IMM, DTU. (2002), 34 pages.
3. K. Madsen, H.B. Nielsen, J. Søndergaard, *Robust Subroutines for Non-Linear Optimization*. Report IMM-REP-2002-02, IMM, DTU. (2002), 36 pages.
4. H.B. Nielsen, *UCMINF - an Algorithm for Unconstrained, Nonlinear Optimization*. Report IMM-REP-2000-19, IMM, DTU. (2000), 24 pages.
5. H.B. Nielsen, *UCTP - Test Problems for Unconstrained Optimization*. Report IMM-REP-2000-17, IMM, DTU. (2000), 19 pages.
6. H.B. Nielsen, *Multi-Exponential Fitting of Low-Field 1H NMR Data*. Report IMM-REP-2000-03, IMM, DTU. (2000), 30 pages.
7. H.B. Nielsen, *Separable NonLinear Least Squares*. Report IMM-REP-2000-01, IMM, DTU. (2000), 16 pages.

Lecture Notes

1. H.B. Nielsen, *Linear Algebra for IT & Health*. IMM (2008), 72 pages.
2. K. Madsen, H.B. Nielsen, O. Tingleff, *Optimization with Constraints*. IMM (2004), 68 pages.
3. K. Madsen, H.B. Nielsen, O. Tingleff, *Methods for Non-Linear Least Squares Problems*. IMM (2004), 58 pages.
4. P.E. Frandsen, K. Jonasson, H.B. Nielsen, O. Tingleff, *Unconstrained Optimization, 2nd ed.*. IMM (2004), 76 pages.
5. H.B. Nielsen, *Algorithms for Linear Optimization - an Introduction, 2nd edition*. IMM (1999), 122 pages.

Public Software

1. H.B. Nielsen: *immoptibox - A Matlab Toolbox for Optimization and Data Fitting*, 2005. Available from <http://www.imm.dtu.dk/~hbn/immoptibox>
2. S.N. Lophaven, H.B. Nielsen, J. Søndergaard, *DACE - A Matlab kriging toolbox*, 2002. Available from http://www2.imm.dtu.dk/pubdb/views/edoc_download.php/1460/