

## Curriculum Vitae

Bernd Dammann

### Employment

- June 2005 – present Associate Professor in Scientific Computing, Department of Informatics and Mathematical Modeling, Technical University of Denmark
- Oct. 2001 – May 2005 Consultant at the High Performance Computing installation at the Department of Informatics and Mathematical Modeling, Technical University of Denmark (Oct. 2001 — March 2002 part time)
- July 1998 – Mar. 2002 System administrator in an Academic Technical Administrative Position (AC-TAP) at the Department of Chemistry, Technical University of Denmark (Oct. 2001 — March 2002 part time)
- Aug. 1997 – June 1998 Research Assistant Professor and system administrator at the Department of Chemistry, Technical University of Denmark
- Aug. 1992 – July 1997 Research Associate and system administrator at the Department of Physical Chemistry (since 1996: Department of Chemistry), Technical University of Denmark

### Education

- Oct. 1986 – July 1992 Studies in Physics at the Johannes-Gutenberg-University Mainz, Germany
- June 1992 Master (Diplom) in Physics
- Aug. 1992 – Oct. 1996 PhD student at the Department of Physical Chemistry, Technical University of Denmark
- PhD thesis *Theory and Simulations of Soft and Fluctuating Interfaces*
- November 1, 1996 PhD defense

### Languages

- German Native speaker
- Danish Read, speak and write fluently
- English Read, speak and write fluently
- French Basic knowledge

## Scientific Publications

- B. Dammann and J.D. Reger :  
*Dynamical Critical Exponent of the Two Dimensional Ising Model*,  
Europhysics Letters **21**, 157 (1993)
- B. Dammann, H.C. Fogedby, J.H. Ipsen and C. Jeppesen :  
*Monte Carlo study of the inflation–deflation transition in a fluid membrane*, Journal de Physique I (France) **4**, 1139 (1994)
- M. Laradji, B. Dammann, O.G. Mouritsen, S. Toxværd and M.J. Zuckermann :  
*Interface Structure and Dynamics of Ternary Fluid Mixtures and Binary Mixtures with Surfactants*,  
Proceedings of the Third International Conference on Computational Physics: Nonlinear Dynamical Phenomena in Physical, Chemical and Biological Systems (eds. P.L. Christiansen and E. Mosekilde) 139 (1994)
- O.G. Mouritsen, B. Dammann, H.C. Fogedby, J.H. Ipsen, C. Jeppesen, K. Jørgensen, J. Risbo, M.C. Sabra, M.M. Sperotto and M.J. Zuckermann: *The computer as a laboratory for the physical chemistry of membranes*,  
Biophysical Chemistry **55**, 55 (1995)
- B. Dammann and J.D. Reger :  
*High Temperature Series Expansion for the Relaxation Times of the Two Dimensional Ising Model*, Zeitschrift für Physik B **98**, 97 (1995)
- B. Dammann, H.C. Fogedby, J.H. Ipsen, C. Jeppesen, K. Jørgensen, O.G. Mouritsen, J. Risbo, M.C. Sabra, M.M. Sperotto and M.J. Zuckermann: *Computer Simulation of the Thermodynamic and Conformational Properties of Liposomes*,  
Non-medical Applications of Liposomes (eds. Y. Barenholz and D. Lasic), CRC Press, Boca Raton, Florida, 85 (1995)
- H. Gilhøj, M. Laradji, B. Dammann, C. Jeppesen, O.G. Mouritsen, S. Toxværd and M.J. Zuckermann :  
*Computer simulation of the effect of vacancies and surfactants on the dynamics of ordering processes in multi–component systems*,  
Mathematics and Computers in Simulation, **40**, 319 (1996)
- B. Dammann and J.H. Ipsen :  
*An ensemble of vesicles in two dimensions*,  
Europhysics Letters **40**, 99 (1997)
- A. Gersborg-Hansen, B. Dammann, N. Aage and T.H. Poulsen: *Parallel solution of systems of linear equations generated by COMSOL 3.2 using the Sun Performance Library*, MAT-rapport 2006
- A. Gersborg-Hansen, M. Berggren, and B. Dammann: *Topology optimization of mass distribution problems in Stokes flow*, in “Topological Design Optimization of Structures, Machines and Materials: Status and Perspectives”, 365 (2006)
- M.J. Jimenez, H. Madsen, H. Bloem and B. Dammann: *Estimation of Non-linear Continuous Time Models for the Heat Exchange Dynamics of Building Integrated Photovoltaic modules*, Energy and Buildings, **40(2)**, 157 (2008)

**Scientific Publications (cont'd)**

S.B. Mortensen, S. Klim, B. Dammann, N.R. Kristensen, H. Madsen, and R.V. Overgaard: *A MATLAB framework for estimation of NLME models using stochastic differential equations*, Journal of Pharmacokinetics and Pharmacodynamics, **34(5)**, 623 (2007)

F.Y. Hansen, L.W. Bruch and B. Dammann: *Low energy elastic and inelastic helium atom scattering from a monolayer film of Xenon atoms adsorbed on the (111) Pt surface*, J. of Chemical Physics (in preparation)

## Conferences/Workshops

- 1993 College on Computational Physics, International Center for Theoretical Physics (ICTP), Trieste, Italy, May 17 – June 11  
7<sup>th</sup> Nordic Symposium on Computer Simulation, Espoo, Finland, September 3–5:  
*Computer Simulation of the Inflated–Deflated Transition of a Fluid Membrane* (poster)  
Phase Transitions at Interfaces — Discussion Meeting of the Deutsche Bunsengesellschaft für Physikalische Chemie, Bad Herrenalb, Germany, September 22–24:  
*Monte Carlo study of the inflation–deflation transition in a fluid membrane* (poster)
- 1994 Aarhus Workshop in Condensed Matter, Aarhus, Denmark, May 25:  
*Monte Carlo study of the inflation–deflation transition in a fluid membrane*  
(invited talk)  
Series 94 — Workshop on New Developments in Series Expansions, Haifa, Israel,  
June 6–14: *High Temperature Series Expansion for the Relaxation Times of the Two Dimensional Ising Model* (invited talk)
- 1995 9<sup>th</sup> Nordic Symposium on Computer Simulation, Hindås, Sweden, August 25–27:  
*Mechanical Properties of Interfaces* (poster)
- 1997 Danish Physical Society Annual Meeting 1997, Nyborg Strand, May 29–30:  
*Vesicle ensembles in two dimensions* (talk)  
11<sup>th</sup> Nordic Symposium on Computer Simulation, Hillerød, Denmark, June 13–15:  
*Controlled Interfaces in Two Dimensions* (talk) and *Vesicles in two dimensions* (poster)
- 2002 High Performance Computing on the Sun Fire SMP-Cluster Workshop, Aachen, Germany, March 11–15  
SunTune - Application Tuning Workshop, Lyngby, Denmark, June 11–12 (organizer)  
Interval Arithmetic Training For Beginners, Lyngby, Denmark, August 26–28
- 2003 SunHPC2003 Workshop, Aachen, Germany, March 24–28  
Sun High Performance Computing Consortium, Heidelberg, Germany, June 21–23:  
*Experiences with Sun Grid Engine* (talk)  
First Scandinavian Workshop on Interval Methods and their Applications, Lyngby, Denmark, August 14–16
- 2004 SunHPC2004 Workshop, Aachen, Germany, March 29 – April 2  
Sun High Performance Computing Consortium, Heidelberg, Germany, June 20–22  
PARA'04 – State-of-the-Art in Scientific Computing, Lyngby, Denmark, June 21–23:  
*High Performance Computing and the importance of job tuning - experiences from the HPC Center at DTU* (talk)  
High Performance Computing in Biostatistics, Lyngby, Denmark, September 27 – October 1 (organizer/speaker)  
EWOMP'04 – European Workshop on OpenMP, Stockholm, Sweden, October 18–21:  
*OpenMP implementation of a Large Air Pollution Model* (talk)  
with Z. Zlatev, DMU (Denmark)

**Conferences/Workshops (cont'd)**

- 2005 SunHPC2005 Workshop, Aachen, Germany, March 14–18  
High Performance Computing Workshop, Lyngby, Denmark, May 17–20 (organizer)  
Sun High Performance Computing Consortium, Heidelberg, Germany, June 19–21:  
*ThinLinc in an HPC environment - some experiences*  
with I. Wallin, Cendio A/B, Sweden  
Second Scandinavian Workshop on Interval Methods and their Applications , Lyngby, Denmark, August 24–27:  
*Using the IMM-DTU Sun servers for Interval Arithmetic* (talk)  
IUTAM-symposium: Topological design optimization of structures, machines and materials - status and perspectives, Rungstedgaard, Denmark, October 26–29:  
*Topology optimization of mass distribution problems in Stokes flow* (poster)  
with A.G. Hansen and Martin Berggren, MEK-DTU  
Sun High Performance Computing Consortium, Seattle, USA, November 6–7:  
*Using ParaWise to Parallelize Sun Customer Applications*  
with S. Johnson and C. Ierotheou, Parallel Software Products (UK), and D. an Mey, RWTH Aachen University (Germany)
- 2006 SunHPC2006 Workshop, Aachen, Germany, March 13–17  
Sun High Performance Computing Consortium, Aachen, Germany, March 15  
Sun High Performance Computing Consortium, Dresden, Germany, June 25-26  
IWOMP'06, Reims, France, June 12-15:  
*OpenMP Add-ons for User Extensible Third Party Applications*  
ECCOMAS CFD 2006, Egmond aan Zee, The Netherlands, September 5–8:  
*3D Topology optimization of Stokes flow problems*  
with A.G. Hansen, MEK-DTU
- 2007 SunHPC2007 Workshop, Aachen, Germany, March 12–16  
Sun High Performance Computing Consortium, Dresden, Germany, June 24-26: *Using Large SMP Machines for Research and Education*
- 2008 SunHPC2008 and VI-HPS Workshop, Aachen, Germany, March 3–7  
Sun High Performance Computing Consortium, Dresden, Germany, June 15-17: *Using Sun Studio in HPC and Education*

## Supervisor activities

- 2009 Rune Madsen (Master Project):  
*Development of a scalable parallel solver to the Laplace problem for non-linear water waves*
- 2008 Dan Erik Brorson Kierkegaard and Atul Manga (Master Project):  
*Parallel Programming Across Multi-core Processors for Nano-science Simulations*
- Wei Zhang (Master Project):  
*Parallel Branch and Bound*
- Marc Juul Christoffersen (Diploma project):  
*Design of LNA oligonucleotides for ncRNA assays with a memetic algorithm*
- 2007 Andreas S. Christensen (Master Project):  
*A Next Generation Method for PK/PD Modeling*
- Christian Viller Hansen (Master Project):  
*Numerical Efficient Methods for Adaptive Quantile Regression*
- 2006 Tobias K. Berthelsen (Master Project):  
*Real-time Ray Tracing on an SMP Multiprocessor System*
- 2005 Mohammad Reza Rahmati (Diploma Project):  
*High Performance & Scientific Computing*

## Teaching activities

- 2009 High Performance Computing: FORTRAN, OpenMP and MPI (PhD course)  
02633 Introductory Programming with Matlab
- 2008 02637 Advanced Programming with Matlab  
Scientific Computing: Fortran and MPI (PhD course/organizer)  
02614 High-Performance Computing  
02631 Introductory Programming with Matlab
- 2007 02631 Introductory Programming with Matlab  
02637 Advanced Programming with Matlab  
02614 High-Performance Computing
- 2006 02631 Introductory Programming with Matlab  
02613 High-Performance Computing  
Special course: Parallel Programming with OpenMP  
Special course: Parallel Computations in Nanoscience
- 2005 02613 Scientific Computing
- 2004 02613 Scientific Computing  
Ph.D. course: High Performance Computing in Biostatistics