

Brian Vinter

Curriculum Vitae

Personal Data

Born: May 21th 1968
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Civil status: Married

Education

Tromsø University, 1999, Tromsø, Norway, DOCTOR OF SCIENCE.
Aalborg University 1994, Aalborg, Denmark, MASTER OF ENGINEERING, COMPUTER TECHNOLOGY

Professional Experience

University of Copenhagen, 5, 2007 to present, HEAD OF CENTER FOR eSCIENCE
University of Copenhagen, 8, 2005 to present, PROFESSOR.
Nordic Data Grid Facility, 3, 2003 to 1, 2006, DIRECTOR.
University of Southern Denmark, 2, 2002 to 3, 2003, ASSOCIATE PROFESSOR.
University of Kent in Canterbury 1, 2002, Canterbury, UK., VISITING SCHOLAR.
CERN 9, 2001 to 12, 2001, Geneva, Swiss, VISITING SCHOLAR.
Tromsø University 6, 2000 to 2003, Tromsø, Norway, ADJOINT LECTURER.
University of Southern Denmark, 9, 1999 to 1, 2002, ASSISTANT PROFESSOR.
Århus University, 9, 1998 to 8 1999, Århus, Denmark, VISITING SCHOLAR.
Princeton University, 8, 1997 to 7, 1998, Princeton, NJ, USA, VISITING LECTURER.
Tromsø University 8, 1995 to 8, 1999, Tromsø, Norway, RESEARCH SCHOLAR.
Tromsø University 1, 1995 to 8, 1995, Tromsø, Norway, ASSISTANT PROFESSOR.
Tromsø University 1, 1994 to 12, 1994, Tromsø, Norway, SCIENTIFIC ASSISTANT.

Other Positions

- 2007- Nordic represent to the Computing Resource Scrutiny Group, LHC, CERN
- 2007- Member of the board, Danish Society for Computer Science
- 2005-2006 Chairman, Danish Grid Forum.
- 2004-2005 Nordic representative in the steering committee for the OECD Global Science forum, working group for Grid computing.
- 2003-2005 Danish representative in the High Performance Computing and Networking of the European Strategy Forum for Research Infrastructure, ESFRI-HPCN
- 2003-2007 Member of the Technical Advisory Board, Danish Center for Scientific Computing
- 2003- Member of the board, MESH-Technologies A/S

Publications

All conference and workshop papers listed are refereed by at least three international referees.

- [1] Mads R. B. Kristense and Brian Vinter, Numerical Python for Scalable Architectures, in proc of Fourth Conference on Partitioned Global Address Space Programming Model, PGAS'10 (to appear)
- [2] Friberg, Rune Møllegaard ; Vinter, Brian ; Bjørndalen, John Markus. PyCSP - controlled concurrency. International Journal of Information Processing and Management, Volume1, Number2, October 2010
- [3] Martin Rehr, Brian Vinter: The User-Level Remote Swap Library. In proc of HPCC 2010, pp.164-171
- [4] Rasmus Andersen, Brian Vinter, "Performance and Portability of the SciBy Virtual Machine," Enabling Technologies, IEEE International Workshops on, pp. 252-257, 2010 19th IEEE International Workshops on Enabling Technologies: Infrastructures for Collaborative Enterprises, 2010.
- [5] Brian Vinter, Rune M Friberg, John Marcus Bjørndalen, PyCSP Revisited, n proc of Communicating Process Architectures 2009.
- [6] Rune M Friberg, John Marcus Bjørndalen, Brian Vinter, Three Unique Implementations of Processes for PyCSP, in proc of Communicating Process Architectures 2009
- [7] Brian Vinter, Rune M Friberg, John Marcus Bjørndalen, PyCSP – controlled concurrency, in proc of PMEA 2009.
- [8] B. Vinter et al., Towards a Robust and Reliable Grid Middleware, Grid Technology and Applications: Recent Developments. Nova Science Publishers, Inc., 2009.
- [9] Brian Vinter, Rasmus Andersen, Martin Rehr, Cycle-scavenging in Grid computing, Grid Technology and Applications: Recent Developments. 1. ed. Nova Science Publishers, Inc., 2009.
- [10] M, N. Larsen, K. Skovhede and B. Vinter, Distributed Shared Memory for the Cell Broadband Engine, in proc of ISPDC 2009
- [11] M. Kristensen, H. Happe, B. Vinter., GPAW optimized for Blue Gene/P using hybrid programming. In proceedings of the 14th International Workshop on High-Level Parallel Programming Models and Supportive Environments, 2009.
- [12] Brian Vinter, Next Generation Processors, in Parallel, Distributed and Grid Computing for Engineering, B.H.V Topping and P. Ivanyi (eds), pp. 21-33,

Saxo-Coburg Publications, 2009

- [13] M.E. Jørgensen and B. Vinter, Reconstruction of Computerized Tomography Images on a Cell Broadband Engine using Ray based Interpolation, in Parallel, Distributed and Grid Computing for Engineering, Saxo-Coburg Publications, 2009.
- [14] Rune Møllegård Friberg and Brian Vinter, CSPBuilder - CSP based Scientific Workflow Modeling, Communicating Process Architectures 2008 : WoTUG-31, Proceedings of the 31st WoTUG Technical Meeting, 7-10 September, 2008, University of York, UK. IOS Press, 2008. s. 347-369 (Concurrent Systems Engineering; 66).
- [15] R. Andersen, B. Vinter, D.A. Power and J.P. Morrison, Supporting MiG and WebCom Interaction, in proc of ECT2008.
- [16] Rasmus Andersen and Brian Vinter, The Scientific Byte Code Virtual Machine, Proceedings of the 2008 International Conference on Grid Computing & Applications, GCA 2008 : Las Vegas, Nevada, USA, July 14-17, 2008. CSREA Press, 2008. s. 175-181
- [17] Martin Rehr and Brian Vinter, The PS3 Grid-Resource Model, in the proc. Of GCA2008(Proceedings of the 2008 International Conference on Grid Computing & Applications, GCA : Las Vegas, Nevada, USA, July 14-17, 2008. CSREA Press, 2008. s. 90-95
- [18] Brian Vinter, Old Tricks for New Architectures: Teaching CSP for Multicore Programming, in proc of PARA 2008.
- [19] John Markus Bjørndalen, Brian Vinter and Otto Anshus. PyCSP - Communicating Sequential Processes for Python, in proc of PARA 2008
- [20] Martin Rehr and Brian Vinter. Application porting and tuning for the CELL-BE processor, in proc of PARA 2008
- [21] Brian Vinter, The Grid taken Literally, in the proceedings of HERCMA 2007, electronic publication:
<http://www.aueb.gr/pympe/hercma/proceedings2007/H07-FULL-PAPERS-1/VINTER-1.pdf>.
- [22] J.M. Bjørndalen, B. Vinter and O. J. Anshus, PyCSP - Communicating Sequential Processes for Python, Communicating Process Architectures 2007, McEwan, Alistair A. and Ifill, Wilson and Welch, Peter H. (ed), 2007.
- [23] Martin Rehr and Brian Vinter, The One-Click Grid-resource model, in the proceedings of HPCC07, Ronald H. Perrott and Barbara M. Chapman and Jaspal Subhlok and Rodrigo Fernandes de Mello and Laurence Tianruo Yang (ed.) pp. 296—308, Springer, 2007.
- [24] Rasmus Andersen and Brian Vinter, Direct application access to Grid storage, Concurrency and Computation: Practice & Experience, Volume 19 , Issue 9 (June 2007), Pages: 1287 – 1298, 2007.
- [25] Mailund, et al., Experiences with GeneRecon on MiG, Future Generation Computer Systems (2006), doi:10.1016/j.future.2006.09.003
- [26] Parameter optimisation in complex hydrodynamic and hydrological modelling systems using distributed computing, Madsen, H., Vinter, B., 2006, Proceedings of the 7th International Conference on Hydroinformatics (Eds. P. Gourbesville, J. Cunge, V. Guinot and S.Y. Liong), 4-8 September 2006, Nice, France, Vol. 4, 2489-2496.
- [27] VGrids - Virtual Grids in Minimum intrusion Grid, Henrik H Karlsen and Brian Vinter, in proc. of ETNGRID 2006
- [28] Harvesting Idle Windows CPU Cycles for Grid Computing, Rasmus Andersen and Brian Vinter, proceedings of GCA-2006.

- [29] Massive Cycle Harvesting for Computational Chemistry, Brian Vinter et al, in the proceedings of DK2 2006.
- [30] Transparent Direct Application Access to Grid Storage, Rasmus Andersen and Brian Vinter, Concurrency and Computation: Practice and Experience.
- [31] Interactive Computing with Minimum Intrusion Grid (MiG), John Markus Bjørndalen, Otto J Anshus and Brian Vinter, in proc of CPA 2005.
- [32] Improving TCP/IP Multicasting with Message Segmentation, Hans Henrik Happe and Brian Vinter, in proc of CPA 2005.
- [33] The Architecture of the Minimum intrusion Grid: MiG, Brian Vinter, in proc of CPA 2005.
- [34] Minimum intrusion Grid - The Simple Model, Henrik H Karlsen and Brian Vinter, in proc. of ETNGRID 2005
- [35] Transparent Remote File Access in the Minimum Intrusion Grid, Rasmus Andersen and Brian Vinter, in proc. of ETNGRID 2005 (**Received Best Paper Award**)
- [36] Initial Experiences with occam-pi Simulations of Blood Clotting on the Minimum Intrusion Grid, Peter H. Welch, Brian Vinter, and Frederick R. M. Barnes, in the proc. Of Parallel and Distributed Programming Techniques and Applications 2005
- [37] Initial Experiences with GeneRecon on MiG, Thomas Mailund, Christian N. S. Pedersen, Jonas Bardino, Brian Vinter, and Henrik H. Karlsen, in the proc of Grid Computing and Applications 2005.
- [38] The Grid Block Device: Performance in LAN and WAN Environments, Bardur Arentson and Brian Vinter, in the proc. of EGC 2005
- [39] A Comparison of Three MPI Implementations. Brian Vinter, John Markus Bjørndalen, Otto J. Anshus, and Tore Larsen, in the proc. of CPA 2004.
- [40] An Evaluation of Inter-Switch Connections. Brian Vinter and Hans Happe, in the proc. of CPA 2004.
- [41] A Distributed Shared Memory Experiment using a dedicated gigabit Wide Area Network, Hans Happe and Brian Vinter, in the proc. of PDPTA 2004.
- [42] The Grid Block Device, Bardur Arentson and Brian Vinter, in the proc. of PDPTA 2004.
- [43] The NorduGrid production Grid infrastructure, status and plans, P. Eerola, B. Konya, O. Smirnova, T. Ekelöf, M. Ellert, J. R. Hansen, J. L. Nielsen, A. Wäänänen, A. Konstantinov, J. Herrala, M. Tuisku and B. Vinter, in the proc. of the 4th International Workshop on Grid Computing, 2003.
- [44] The Grid Block Device, Bardur Arentson and Brian Vinter, the proc. of CPA 2003.
- [45] Distributed Shared Memory in Global Area Networks, Hans Happe and Brian Vinter, in the proc. of CPA 2003.
- [46] RMoX: A Raw-Metal occam Experiment, Fred Barnes, Christian Jacobsen and Brian Vinter, in the proc. of CPA 2003.
- [47] Cluster Computing as a Teaching Tool, Otto, Anshus, Anne Elster and Brian Vinter, in Parallel computing: Software Technology, Algorithms, Architectures & Applications, G.R. Joubert et al (ed), pp 887-894, 2003.
- [48] Design and implementation of a 512 CPU cluster as a general purpose SuperComputer, Brian Vinter, in Parallel computing: Software Technology, Algorithms, Architectures & Applications, G.R. Joubert et al (ed), pp 871-877, 2003
- [49] Java PastSet, Kei Simon Pedersen and Brian Vinter, in IEE Software, Vol 150,

No 2, April 2003, pp 147-153.

- [50] Configurable collective communication for LAM-MPI in a multicluster environment, John Markus Bjørndalen, Otto J. Anshus, Brian Vinter and Tore Larsen, in the proceedings of NIK2002.
- [51] The latency of user-to-user, kernel-to-kernel and interrupt-to-interrupt level communication, John Markus Bjørndalen, Otto J. Anshus, Brian Vinter and Tore Larsen, in the proceedings of NIK2002.
- [52] Cluster Computing and JCSP Networking (**Received Best Paper Award**), Brian Vinter and Peter Welsh, in the proceedings of Communicating Process Architectures, 2002.
- [53] Configurable collective communication in LAM-MPI, John Markus Bjørndalen, Otto J. Anshus, Brian Vinter and Tore Larsen, in the proceedings of Communicating Process Architectures, 2002.
- [54] Java PastSet – A Structured Distributed Shared Memory System, Kei Simon Pedersen and Brian Vinter, in the proceedings of Communicating Process Architectures, 2002.
- [55] Scalable Processing and Communication Performance in a Multi-Media Related Context, J Bjørndalen, O. Anshus, T.Larsen, L. Bongo and B. Vinter, in the proceedings of the 28th EuroMicro conference.
- [56] Using run-time configurable networks of computational communication paths for experimental coarse-tuning of high-performance distributed applications, John Markus Bjørndalen, Otto J. Anshus, Brian Vinter, Tore Larsen, in the proceedings of NIK2001.
- [57] Using Two-, Four- and Eight-Way Multiprocessors as Cluster Components, B. Vinter, O. Anshus, T. Larsen, J. Bjørndalen, in the proc. of Communicating Process Architectures, CPA, 2001
- [58] Extending the applicability of software DSM by adding user redefinable memory semantics, B. Vinter, O. Anshus, T. Larsen, J. Bjørndalen, in the proc. of Parallel Computing 2001, ParCo2001.
- [59] John Markus Bjørndalen, Otto J. Anshus, Brian Vinter, Tore Larsen, The Impact on Bandwidth and Latency Using a Gigabit Network supporting the Virtual Interface Architecture in Hardware , in the proceedings of NIK2000.
- [60] John Markus Bjørndalen, Otto J. Anshus, Brian Vinter, Tore Larsen, Comparing The Performance of the PastSet Distributed Shared Memory System using TCP/IP and M-VIA , in the proceedings of WSDSM'00.
- [61] Brian Vinter, Embarrassingly Parallel Applications on a Java Cluster, in the proceedings of, The European Conference on High Performance Computers and Networking (HPCN) 2000.
- [62] Brian Vinter, Otto J. Anshus and Tore Larsen. Improving Cluster Performance using a Sequentially Ordered Structured Distributed Shared Memory System, Proceedings of Norsk Informatik Konferense, Trondheim, November 1999.
- [63] Brian Vinter, PastSet – A Structured Distributed Shared Memory System. Dr. Scient. Dissertation, Tromsø University, 1999.
- [64] Brian Vinter, Tore Larsen, Otto J. Anshus. Data Distribution Models for a Structured Distributed Shared Memory System, in the Proceedings of the 1999 International Conference on Parallel and Distributed Processing Techniques and Applications, Las Vegas, Nevada, USA, June/July 1999.
- [65] Brian Vinter, Tore Larsen, Otto J. Anshus, Experiences Building a Multicomputer of HP SMP servers. In the proceedings of the International Conference on High Performance Computing on Hewlett-Packard Systems, 1999.

- [66] Brian Vinter, Otto J. Anshus and Tore Larsen. PastSet A Distributed Structured Shared Memory System, in the Proceedings of High Performance Computers and Networking Europe, Amsterdam April 1999.
- [67] Brian Vinter, Otto J. Anshus and Tore Larsen. The Impact of Node Size on the Performance of Processor-bound Applications on Clusters of Four and Eight way Shared Memory Multiprocessors, Proceedings of Norsk Informatik Konferense, Kristiansand, November 1998.
- [68] Brian Vinter, Otto J. Anshus and Tore Larsen. PastSet - An Efficient High Level Inter Process Communication Mechanism, Proceedings of the International Conference on Parallel Processing, Minneapolis August 1998.
- [69] Brian Vinter and Kallol K. Bagchi, A Tool for Parallel Algorithm Design Via Simulation, in the Proceedings of the 1993 SCS Western Simulation Multiconference on Simulation in Engineering Education, San Diego January 1993.

Invited Lectures

As an invited lecturer I have given

- More than 15 invited talks at conferences
- More than 20 invited talks at universities
- More than 70 invited talks at 'popular science' level.

Grants

HIPERFit, 31.4 M DKK total, 5M share

PR-eScience, 4M DKK total, 2M DKK share

"CT scanner for product optimization in the food industry", 23 M DKK total, 7.5M DKK share

"High Productivity High Performance", 5.6M DKK

"Centre for Industrial Application of CT-Scanning", 13M DKK total 2.2Mkr share

"Centre for Grid Computing", 6M DKK

"Large-scale quantum simulations and informatics in nanocatalysis", 4.9M DKK total 2.2Mkr share

"Molecular docking", NABIIT, 8.8M DKK total 2.1 MKr share

"Molecular design using Grid Technology", NABIIT, 8.6M DKK

"Young Research Talent" Grant from the Danish Science Research Council, 2.9M DKK

Joint project of five research-groups, headed by Professor Eric Jul, University of Copenhagen, which received DKK 7.5 M to establish Danish Centre for Grid Computing

6.4 M DKK to build a 512 CPU cluster, the machine is currently the fastest supercomputer in Denmark (joint project headed by Frank Jensen, SDU). Later financed with an additional 5MDKK to increase the system to 956 CPUs

Joint project of four research-groups, headed by Professor Eric Jul, University of Copenhagen, which received DKK 900.000 for research in 'Support of Network Services for Distributed Applications'

NOK 160,000.00 from the Norwegian Research Council to help cover expenses for my stay at Princeton University.

Awards

Recipient of the 2002 teaching award at the Faculty of Science and Engineering at the University of Southern Denmark.