Curriculum Vitae: Prof. Dr. habil. Sergei Gorlatch

University of Münster, Institute of Computer Science
Einsteinstr. 62, 48149 Münster, Germany
Phone: 0251/83-32741, Fax: 0251/83-32742
Email: gorlatch@uni-muenster.de

Born: 27.08.1957

Professional Activities

since Oct. 2003	Full Professor, Chair Parallel and Distributed Systems, Univ. of Münster, Germany
2000 - 2003	Associate Professor for Parallel and Distributed Programming, TU Berlin, Germany
1998 - 2000	Assistant Professor, University of Passau/Germany
1992 - 1997	Research Assistant, University of Passau/Germany
1991 - 1992	Research Fellow of Humboldt Foundation, Technical Univ. of Munich, Germany
1979 - 1991	Researcher, Project Group Leader at the Institute for Cybernetics, Kiev/Ukraine

Education Degrees

1998	Habilitation in Computer Science at the University of Passau, Germany
1984	PhD degree in Computer Science at the Institute of Cybernetics, Kiev/Ukraine
1979	MSc degree in Applied Math and Computer Science, State Univ. of Kiev/Ukraine

Recent Keynote and Invited Talks
IEEE International Conference on Computing, Networking and Communications ICNC (USA),
Int. Multi-Conference of Engineers and Computer Scientists IMECS (Hong Kong), and many others.

Selected Research Projects

DFG/Germany: Code Generation and Optimization for Parallel Deep-Learning Applications (2025 - 2028)

DFG/Germany: Performance, Portability, Productivity for Deep Learning on Many-Cores (2022 - 2025)

GS Electronic GmbH /Germany: Modeling Failover Time in Legacy Alarm Systems (2022 – 2026)

BMBF/Germany: Performance-aware Code Generation in Comp. Sci and Engineering (2017 - 2020)

DFG/Germany: EXC 1003 -- Cluster of Excellence - Motion Analysis in Cellular Systems (2012 - 2019)

EU: MONICA – EU-China Project on Mobile Cloud Computing: Networks and Services (2012 - 2015)

EU: OFERTIE -- OpenFlow Networks in Real-Time Internet Edutainment (2012 - 2014)

EU: Networks of Excellence -- CoreGRID and S-Cube (2005 – 2013)

DFG/Germany: SFB 656 -- Parallel 4D Visualization in Biological Systems (2005 – 2012)

EU: Edutain@Grid: A Scalable QoS-enabled Grid Environment for Multi-User Real-time Apps (2006 – 2009)

DFG/Germany: Collective Operations: Formal Framework, Equalities, Efficiency (2000 – 2006)

Scientific Service Activities

Chair/Program Committee Member at major international conferences (ACM Supercomputing, IEEE IPDPS, IEEE ICNC, PACT, Euro-Par, ACM SIGCOMM, ACM GCO, ACM POPL, PaCT, etc.)

Since 2019	Member of Steering Committee of ML-Framework *Mindspore* (Huawei)
since 2007	Member of the Editorial Board of the "Journal of Cluster Computing"
since 2005	Member of the Editorial Board of the journal "Multiagent and Grid Systems"
since 2002	Editor of the "Journal of Programming and Artificial Intelligence"

Publications: more than 200 peer-reviewed international publications, Google H-Index: 34.

10 most important publications, chronologically, with A* and A ranking at *www.core.edu.au*:

1. S.Gorlatch. "Extracting and implementing list homomorphisms in parallel program development." *Science of Computer Programming* 33, no. 1 (1999): 1-27. Rank: A.
2. T.Kielmann, H.E.Bal, and S.Gorlatch. "Bandwidth-efficient collective communication for clustered wide area systems." In Proc. *Int. Parallel and Distributed Processing Symposium (IPDPS)* 2000, pp. 492-499. IEEE, 2000. Rank: A.
3. S.Gorlatch. "Send-receive considered harmful: Myths and realities of message passing. *ACM Trans on Programming Languages and Systems (ACM TOPLAS)* 26, no. 1, 2004: 47-56. Rank: A*.
4. M.Steuwer, P.Kegel, and S.Gorlatch. "SkelCL-a portable skeleton library for high-level GPU programming." In: 2011 IEEE IPDPS Workshops, pp. 1176-1182. IEEE, 2011. Rank: A.
5. B.Hagedorn, L.Stoltzfus, M.Steuwer, S.Gorlatch, and C.Dubach. "High performance stencil code generation with Lift." In: *Proc. Int. Symp. on Code Generation and Optimization (CGO'18*), pp. 100-112. 2018. *Best Paper Award*. Rank: A.
6. D.Meilaender and S.Gorlatch. "Modelling the Scalability of Real-Time Online Interactive Applications on Clouds". *Future Generation Computer Systems 2018,* No. 86: 1019-1031. Rank: A.
7. H.Sun, F.Fey, J.Zhao, and S.Gorlatch. "WCCV: improving vectorization of IF-statements with warp-coherent conditions." In: *ACM Int. Conf. on Supercomputing (ICS)*, pp. 319-329. 2019. Rank: A.
8. B.Hagedorn, J.Lenfers, T.Koehler, X.Qin, S.Gorlatch, and M.Steuwer. "Achieving High Performance the Functional Way: Expressing High-Performance Optimizations as Rewrite Strategies". In: *Communications of the ACM (CACM)* 66, 3: 89–97, 2023. Rank: A*.
9. A. Rasch, R. Schulze, D. Shabalin, A. Elster, S. Gorlatch, and M. Hall. "(De/Re)-Compositions Expressed Systematically via MDH-Based Schedules". *In: Proceedings of the 32nd ACM SIGPLAN Int. Conf. on Compiler Construction (CC)*. ACM, 2023, 61–72. Rank: A.
10. B. Koepcke, S. Gorlatch, and M. Steuwer. "Descend: A Safe GPU Systems Programming Language". In: *ACM SIGPLAN Conf. on Progr. Lang. Design and Implementation (PLDI)*. 2024. Rank: A*.

Supervised and successfully defended PhD Theses (altogether 20):

Sezar Jarrous-Holtrup: A Scalable Cloud Deployment Architecture for High-Performance Real-Time Online Applications, 2025

Ari Rasch: Toward Performance & Portability & Productivity in Parallel Programming, 2025

Vladyslav Kucher: Portable Implicit Parallel Programming in C++ using the PACXX Framework, 2024

Yu Zhang: Quality of Service in Software-Defined Networking with Applications to Social Networks, 2023

Mina Abadeer: Agent-Based Modeling and Simulation of Infection and Disaster Scenarios, 2022

Bastian Hagedorn: High-Performance Domain-Specific Compilation without Domain Compilers, 2021

Huihui Sun: Taming Control Divergence for Vectorizing Programs on SIMD Extensions, 2020.

Tim Humernbrum: Quality of Service in Real-Time Applications on Software-Defined Networks, 2019

Michael Haidl: Heterogeneous Computing in C++ using PACXX Programming Model, 2018

Dominique Meilaender: Efficient Resource Management of Real-Time Applications in Clouds, 2017

Mohammed Nsaif: Efficient Persistence Management in Distributed Real-Time Online Applications, 2016

Frank Glinka: High-Level Development of Scalable Real-Time Interactive Applications for Grids, 2016

Michel Steuwer: Improving Programmability and Performance Portability on Many-Core Processors, 2015

Philipp Kegel: An OpenCL-based Approach for Programming Systems with Multicores and GPUs, 2013

Alexander Ploß: Efficient Dynamic Communication for Real-Time Online Interactive Applications in Heterogeneous Environments, 2011

Maraike Schellmann: Efficient PET Image Reconstruction on Parallel and Distributes Systems, 2009

Jan Dünnweber: Higher-Order Components for Web-Enabled Grid Applications, 2008

Jens Müller-Iden: Replication-based, Scalable Parallelization of Virtual Environments, 2007

Martin Alt: Using Algorithmic Skeletons for Efficient Grid Computing with Performance, 2007

Holger Bischof: Systematic Development of Parallel Programs Using Skeletons, 2005